

## KURİKİ HÖYÜK, A SMALL SETTLEMENT AT THE CONFLUENCE OF THE BATMAN AND TIGRIS RIVERS

### Evidence from the Late Iron Age to the Parthian period

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#### *Abstract*

*This paper concerns the results of two seasons of work at Kuriki Höyük on the left bank of Batman Çayı, in SE Turkey. Architecture and materials provide information on a little known period in the region, comprising the second half of first millennium BC to the first centuries of Common Era. Focusing on pottery sherds, a few objects and architectural remains, contextual analysis enable us to define aspects of the local material culture, main phases of occupation at the site and the regional links. On the whole, more attention has been paid to interpreting all the evidence collected, although fragmentary, framing it within a general chronological grid, and summarising the main historical events that could have had consequences on the sequence of occupation.*

#### THE SITE AND ITS SEQUENCE

The site of Kuriki Höyük (37°47'28.6"N 41°00'45.8"E) is located on a terrace on the eastern bank of the Batman Çayı in close proximity to its confluence with the Tigris river, approximately 1 km from the village of Oymataş (Fig. 1). This terrace flanks the Batman Çayı and becomes wider at the confluence with the Tigris. It rises few meters above the river flood-plain, is delimited by hills to the north and by a steep rock slope rising to the south-east. At the foot of these high cliffs the meander of the Tigris borders the site on its south-eastern side, while the Batman Çayı flanks its south-western side. Immediately north-east of the Batman Çayı, low hills rise progressively from the flat landscape delineating an undulating landscape, with higher hills towards the north. This is the last relatively large fertile area along the course of the Tigris, the terminal part of the long, west-east Tigris river valley. In fact, downstream from the confluence with the Batman Çayı, the meandering course of the Tigris starts to flow through high cliffs, between the northern fringes of the Tur Abdin highlands and the Raman-dağ. Here the areas usable for agriculture are quite rare or totally absent.

The site is ovoid in shape, measuring 250 × 100 m, with the main axis oriented E-W. It consists of a main low mound clearly visible among the agricultural fields and a low flat area that rises progressively towards the west, where the slight convexity of a second very low mound is located. The profile of the site, seen from a nearby steep cliff south of the Tigris river

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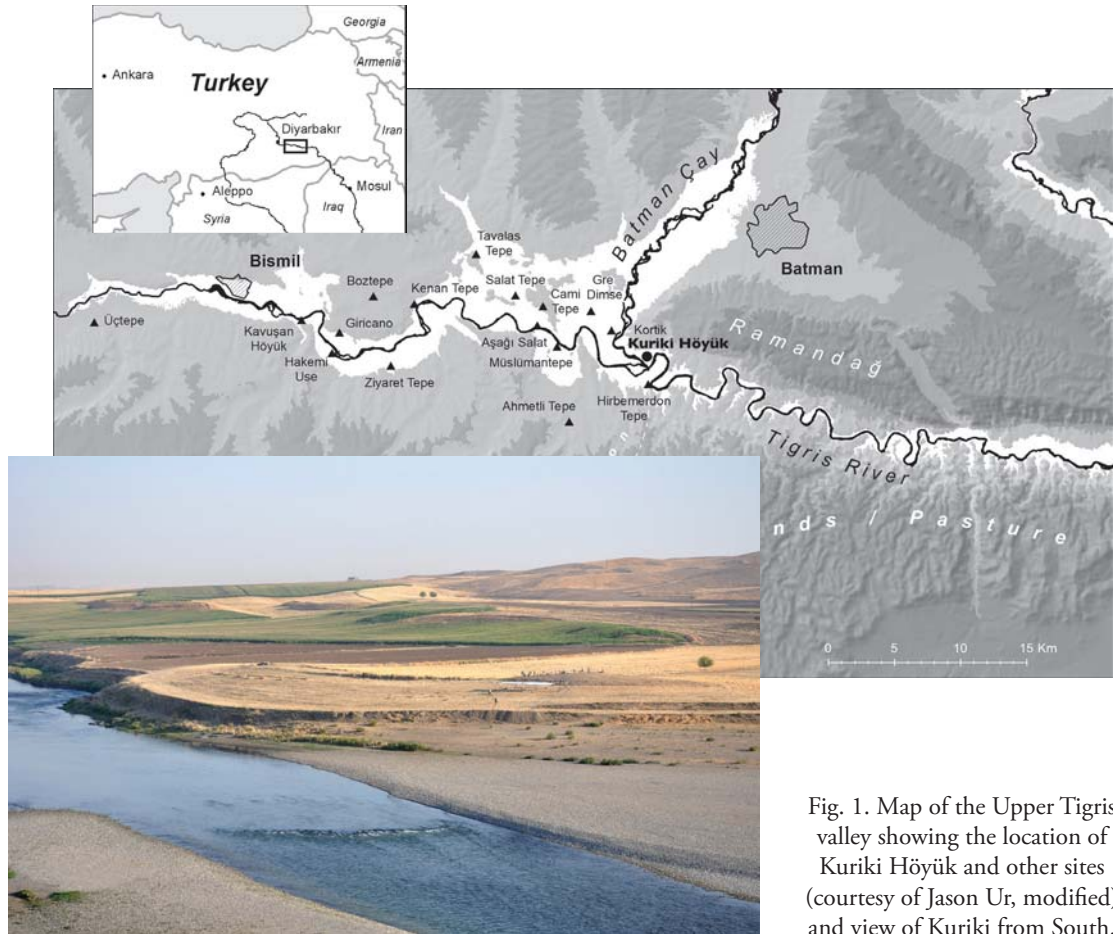


Fig. 1. Map of the Upper Tigris valley showing the location of Kuriki Höyük and other sites (courtesy of Jason Ur, modified) and view of Kuriki from South.

overlooking the entire valley, recalls the shape of a saddle, sloping gently towards the rivers. The main low mound has been named Kuriki 1 and the topographic anomaly at the western edge, the second very low mound, is Kuriki 2. The excavations have revealed that the flat area between both low mounds and the slope degrading toward the Batman Çayı were also occupied by the settlement, with relics of dwellings and graves (Genç 2016: 166 and res. 10; Genç and Yıldız Köse 2017: 285-286).

Kuriki Höyük was identified at the time of the first extensive survey along the Batman Çayı. In the map of ancient settlements surveyed in 1988, it was labelled as site number 70 (Algaze 1989: fig. 2b) and as number 76 in the latest map (Algaze *et al.* 1991: fig. 2b). The first season of excavations took place in the summer of 2009. It was carried out by a Turkish-Italian team under the direction of Elif Genç (Çukurova University), on behalf of the Museum of Mardin, within the framework of Ilisu Dam HES program for rescue excavations.

The results of the first two seasons, made it possible to reconstruct the history of the occupation of the site, exposing a sequence of five main archaeological levels subdivided into eleven sub-phases (Genç, Valentini and D'Agostino 2012: 464-465). The earlier traces uncov-

ered at mound of Kuriki 1 were reached in a deep sounding. This level consisted of a floor with a silo containing 45 kg of carbonized seeds, mainly lentils, which was discovered underneath a long sequence of strata dated to the Late Chalcolithic / beginning of Early Bronze Age. These strata belong to the earliest uncovered settlement at the site, Level IV. The layers on top of the remains of Level IV, are dated to historical times, starting with Level III, dated approximately to the second half of the 1<sup>st</sup> millennium BC. The layers and buildings directly below the modern mound surface are disturbed by ploughing and erosion, but provide many elements for reconstructing the final occupation of the site (levels II and I). A radiocarbon sample taken from the floor of room 5 (locus 7) of the main building, provided the date of 200-45 BC (%95)<sup>1</sup>. The material collected on the surface of the mound, becomes in itself also interesting as it reflects what remains of the eroded strata or architecture.

This article aims at publishing the findings of the first two campaigns, integrating most of what has been already made available in the preliminary reports (Genç and Yildiz Köse 2017; Genç 2016; Genç, Valentini and D'Agostino 2011 and 2012; Valentini 2012). Moreover, it will attempt to provide a better chronology of the later settlement, despite the fragmented archaeological evidence. Meanwhile, this work remains a summarized overview of stratigraphy and architecture, awaiting the final publication, which in preparation. The general chronological framework for the last occupation of the site can be established on the basis of the surface material and the remains of the upper levels of the sequence found *in situ*, altogether providing a clear insight into the processes of use and reuse of the area from the Iron Age until the first centuries of the 1<sup>st</sup> millennium of the Common Era.

## ARCHITECTURE

The top of the low mound of Kuriki 1 (Area A) is occupied by the basement of a quadrangular multi-roomed building, oriented North-east/South-west, and by an elongated structure, closely related to this in both structure and function, probably a storeroom (Figs. 2 and 3). Only the foundations and traces of the mud-brick upper wall on top of them have survived. Some pits (level 0) cutting the architectural remains have been identified in relation to the remains exposed both in Kuriki 1 and 2 as well as traces of dismantling activities by villagers. The first chronological framework for the tentative date of the building found directly under the surface soil, relies upon the analysis of the architecture and a series of remarks and deductions from the mixed assemblage of pottery sherds found in the filling of the rooms and sparse finds form the surface of the site.

The main building (19.30×18.00 m) is composed of six rooms and a long central corridor that separates it in two regular wings. The rooms are rectangular and of different sizes, leading off either side the narrow corridor. Portions of a well-made mud-plaster floor have been preserved in rooms 5, 2, in the corridor and in a corner of room 1, as well as traces of plaster on the walls. A very poorly preserved fireplace is located against the south-eastern wall of room 5 (Fig. 3, at the centre). It consists of a rectangular bench in mud-bricks covered with whitish plaster and with a semi-circular kerb that lay on a very low rectangular platform rising

<sup>1</sup> The sample, n. 404872 (Beta Analytic Laboratory), consisted of burned wood (4.3 gr).

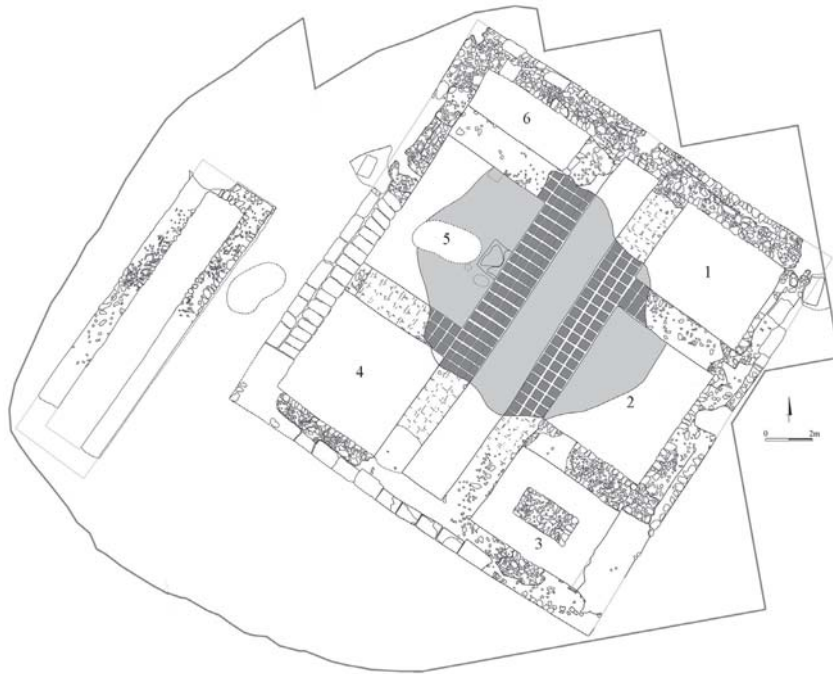


Fig. 2. Plan of the buildings of level II on top of Mound 1, Area A (modified from Valentini 2012: fig. 8).



Fig. 3. The quadrangular building, level II. Remains of the mud-brick walls are preserved in the central portion of the building. From West.

slightly above the floor. Traces of fire are visible on the platform and in relation with the bench. Evidence of a last reuse of the building is represented by signs and remains of fireplaces in the corridor and in room 2, and in relation with the northern wall.



The construction pattern is not uniform but represented by a mixed system, with different masonry techniques. The foundation walls of the main building are made mainly of small stones and medium sized stones, pebbles and, only over a limited portion, on the southern and western sides, include one course of limestone ashlar blocks fitted closely together. The thickness of the walls is 1.50 m whereas the height is variable, in response to the irregularity of the mound, and at the centre of the building reaches 1.30 m, with about five courses of stones. The stone foundation walls supported mud-brick ( $40 \times 40 \times 10$  cm) walls, preserved in the central portion of the building.

The foundation walls of the main building, in both ashlar and rough stones, are not in foundation trenches, but sitting on a levelled surface. These blocks of parallelepiped shape, cut at the same height but not of uniform length, are well dressed, marginally drafted on the inner faces (Fig. 4, wall 2), with rough external faces that were only dressed along their joints, and set against each other without the use of mortar. The ashlar were laid in two rows with stretchers on the exterior and headers on the interior. The face of the external ashlar is left rough and the head joints are pitched off in a line. The visible heads on the inner side of the wall are curved, shaped like a sort of low cushion, slightly embossed and only a frame along the edges is finished, showing the presence of *anathyrosis* technique. Ashlars are used to build the north-western and south-western walls. A further seven isolated ashlars of different size, with rough external faces, are inserted in other parts of the walls made by smaller stones, in the eastern corner of the building and near the northern corner. In fact the final finishing of the blocks was carried out *in situ*, after they were set in place, as can be seen by the accumulation of limestone flakes, fragments and dust, residuals of the cutting of the stones and working of the margin, covering all of the flat area



Fig. 4. Wall 2 made of calcareous ashlar, inner side, delimiting the north-eastern side of the quadrangular building. In the upper part of the picture: the white floor of the level II building (cut by the elongated building, top of the picture), and the fireplace in room 5 with at the centre a bean-shaped pit cutting the earthen floor of level II; on the left the archaeological test soundings 2 and 1. From North-East.

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Fig. 5. The western corner of the quadrangular building (walls 2 and 23), with the imprint of the removed ashlars not covered by the white layer of fragments and dust, residuals of the finishing of the stones on the ground. From West.

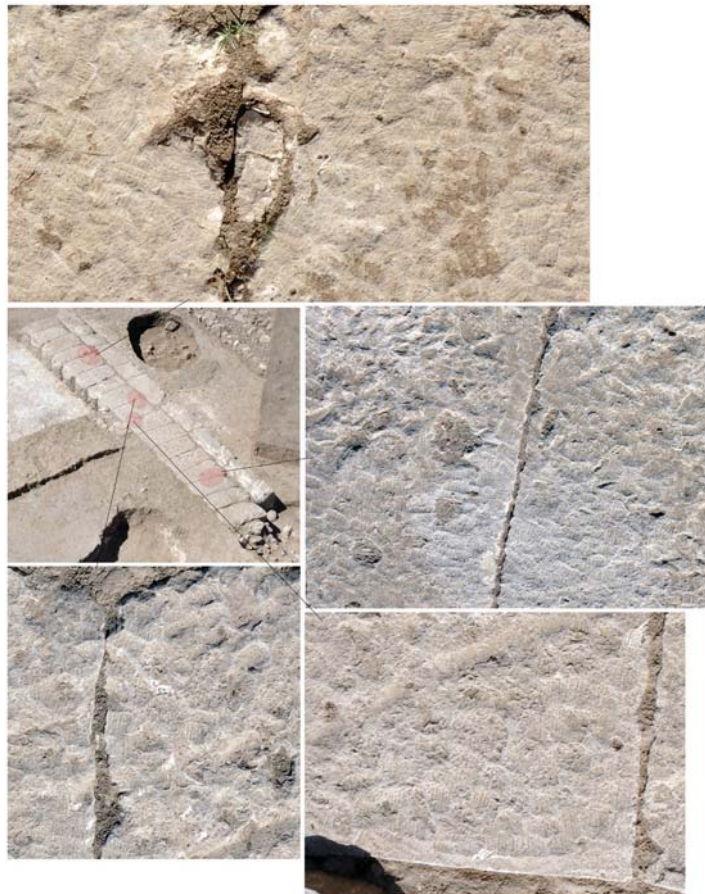


Fig. 6. The ashlars wall: magnification of stonecutting traces and partial finishing of the surfaces.

around the western corner of the building (Fig. 5). Stone robbing and agricultural activity with mechanical ploughing may have removed other ashlar. Evidence of this can be seen in the spot with regular margins not covered by the layer of white limestone residual of the finishing work, that represents the negative imprint of the ashlar's base.

Traces of stonecutting and partial finishing are visible on some faces of the ashlar. The surface appears chipped, roughly-cut and lacking the last final fine working of hewing with smaller tools. In particular, traces of primary trimming of the surface can be made out, with the heavy stroke of a rough punch, as well as other made with a medium sized punch and clear signs of a multi toothed chisel or hammer-like multi-toothed tool that left short parallel furrows (Fig. 6). The strokes are both parallel to the surface and other more vertical and deeper. Other walls are in middle sized stones arranged in two external rows and middle to small sized stones to fill the space inside. The central part of the northern wall is stepped, with the side delimiting the rooms and corridor higher than the external.

The foundation walls of the single-room elongated building, west of the square building, are cut into the flat surface covered with traces of calcareous residuals, the results of stonecutting (Fig. 4). This indicates that its construction occurred after the ashlar had been worked. The reason could provide a slightly later date, but within the same phase of occupation or a different solution preferred by the masons in the construction of the elongated structure, on the slope of the mound of Kuriki 1. The walls of this building are built with two external faces of middle sized stones arranged in a fishbone pattern, with smaller stones and pebbles at the centre.

The composite technique of the building masonry, integrating ashlar and rough stones, suggests that the original plan was probably interrupted and the building completed in a different way than originally planned or that the ashlar were reused in a different construction, as part of new walls made in middle and small sized rough stones.

Nothing can be said about the activities performed inside the building, given the almost total lack of furniture and material remains on the preserved portions of floors.

#### THE POTTERY

A mixed assemblage of pottery sherds were encountered in superficial loci, namely the soil filling the preserved portion of the rooms, at the centre of Kuriki 1 mound, and the layer covering the remains of the building. The extensive post-depositional activities and the proximity to the surface means that we have to deal with an assemblage composed by sherds coming from various contexts and levels. Fragments of the same pot, in some cases, have been found in nearby loci, for example 1, 5 and 7, and this confirms that post-depositional events profoundly influenced the composition of the archaeological deposit. Nevertheless, the analysis of superficial assemblage can provide activity-related elements and artefacts as well as quantitative and qualitative data for understanding the last phase of settlement and period of occupation.

No well stratified deposit has been found as far as the later occupation is concerned. Apart from the sherds which are clearly residuals from the earlier phase of occupation (end of



4<sup>th</sup>/beginning of 3<sup>rd</sup> millennium BC), such as the fragments of some handmade bowls (Pl. 1: 7 and 14) in locus 1, namely the layer covering the walls of the building, everything else found within the contexts near the surface fall into a ceramic horizon ranging from the 1<sup>st</sup> millennium BC to the earlier centuries of the Common Era.

The assemblage of superficial layers contains a mixture of shapes and wares. A first tentative dating of the sherds relies on comparisons with stratified and dated contexts but comparative materials are scarce in the Batman and Tigris valleys and we have to look for these outside the region. Furthermore, in many cases comparisons are based on morphological similarities and not necessarily on fabrics.

The surface collection consists mainly of wheel-made plain ware and a few examples of painted and glazed wares. Plain and painted wares are generally tempered with a mixture of fine mineral inclusions and organic materials, variously

sized, and in different percentages. The presence of grits and calcareous whitish particles in the temper is recurrent as well as mica and fine sands. The surface can be smoothed or burnished with a differing degree of care. In a limited number of sherds a clear slip of clay can be observed, more often just a thin self-slip. The colour of the surface ranges from buff, yellowish and reddish/orange to light brownish and brown, but often, on the same sherd various chro-



Fig. 7. a: Painted pottery sherds from Kuriki 1 mound, Area A (level II, I and surface); b: painted sherds from Kuriki 2, Area B (superficial layer).



matic tonalities have been observed. The core of the sherd, in section, has generally a nuance of the same colour of the surface and in other cases can be grey or black, particularly for bowls and medium and large jars.

The superficial layer of soil covering the remains of the building at Kuriki 1 (locus 1) is characterized by a mixed repertoire of small sherds of bowls and jars and a few fragmentary pieces. The bulk consists of medium to small sized fragments of wheel-made plain ware of medium thickness (16 Kg) or parts of storage containers (4,8 Kg); fine and painted ware sherds are rare (120 g), as are medium/fine smoothed (300 g) and medium with many calcareous particles (300 g) and gritty texture (950 g); some sherds are handmade. Grits used in the paste are white, brown and black. The picture emerging from fillings of the rooms is not different and the percentages generally are consistent with those of the surface layer. In locus 5, below locus 1, the layer covering the top of Kuriki 1 mound, medium sized sherds of medium thickness in wheel-made plain ware are recurrent (14,6 Kg), less documented are the fragments of storage containers (1,25 Kg); also fine wares, mainly yellow and orange, are attested (150 g), medium/fine (100 g) as well as yellowish sherds of medium texture with many calcareous particles (300 g), of brown (360 g) and orange (100 g) colours. Similarly, the composition of the repertoire of locus 14, the filling on top of the white floor south-east of the ashlar wall 2, comprises sherds of medium wheel-made plain (16,5 Kg) and a small number with grits (300 g), fine burnished wares (150 g), painted wares (60 g), kitchen brown with black and white grits (100), thick fragments of storage and very large pots (5,6 kg) most part of which (4 kg) have traces of bitumen inside and a small percentage of glazed ware (100 g) and hand-made sherds (300 g).

Painted specimens from loci 1 and 5 of Kuriki 1 and the surface of Kuriki 2 are characterized by geometric painted motifs applied as decoration of the external surface, mainly in reddish colours although brown and blackish colours are also documented (Fig. 7a-b). The motifs include bands, hanging triangles, dots, spots and wavy lines, alone or in various compositions, applied directly on the smoothed surface or, in other cases, over a thin slip. Within the painted repertoire, patterns with elongated vertical triangles extending from bands toward the base of the jar, bands with sorts of festoons in between simple horizontal bands have been found over the surface of the site and in the filling of the rooms (loci 4, 5 and 7). The vertical triangular motifs of many sherds (Pl. 2: 22; Fig. 7a: first fragment of the first line and third line; Fig. 7b: second line, first three fragments and third line, third and fourth fragments) belong to a style spread in the Upper Tigris region. Generally triangles are particularly narrow and very elongated, sometimes filled or with vertical lines inside. Jars with this decoration have been found in many sites of the area, for example in the Iron Age level of Giricano (Schachner 2002: abb. 15) where it is worth noting their association in the published picture (Schachner 2002, abb. 7) with a type of grinding stone that continue to be in use till the 4<sup>th</sup> century BC (Trokay 2000: 1668; Bombardieri 2005), at Ziyaret Tepe, considered Hellenistic in date (Matney *et al.* 2007: 44), Salat Tepe (Ökse and Görmüş 2006: 184, fig. 42) and Hirbemerdon (Laneri *et al.* 2006: 155, fig. 13). Also on the Garzan Su, a tributary of the Tigris river, this pattern is well documented, according to the sherds found in Gre Amer level 1, dated preliminarily to the Hellenistic and Parthian period (Pulhan and Blaylock 2013: fig. 15, centre and right and fig. 16; Pulhan 2013: 116). Sherds characterized by pending triangular motifs have been considered part of an eastern tradition of Achaemenid and Parthian date that has to be connected in

some way with the Triangle Ware horizon of northwestern Iran (Stronach 1974: 241-242, 244; Dyson 1999a: 134-138; Summers and Burney 2012: 275-278). Similar decorative schemes with triangles and lines at the base of the neck and wavy horizontal lines delimited by horizontal bands are also at Baba Jan III (Goff 1978: 32; Fig. 1: 4, 10; Fig. 5: 2, 5; Fig. 6: 5), in the Central Zagros, documenting an Iranian cultural influence at the beginning of 9<sup>th</sup> century BC. The occurrence of different variants of Triangle Ware is however a widespread phenomenon encompassing a larger area stretching from south-western Iran to Georgia and dating from the Late Achaemenid to the Hellenistic and Parthian periods (Summers 1993: fig. 6; Ristvet *et al.* 2012: 349-350 also for bibliography).

A fragment of ring base with a simple dentate impressed motif inside (Pl. 3: 42; Fig. 8, right) is probably the only example of *sigillata* ware found at the site, though the superficial glossy layer is not preserved but only faint traces of a red layer. A second fragment of a conical bowl (Pl. 4: 44; Fig. 8, left), from the filling on top of the white floor 12 north-west of wall 2, has a red slip surface, partially lost and with wheel lines clearly visible, and calls to mind the 'fish plates' documented at Ain Sinu, in Northern Iraq (Oates and Oates 1959: pl. XXIII: 3 and LVIII: 69) and Nimrud (Mallowan 1966: 306, fig. 293) dating to the Hellenistic period.



Fig. 8. Sherds with red slipped surfaces and impressed signs (on the right a close-up of the preceding base fragment), probably in *sigillata* ware, Area A (level II).

The plain ware sherds belong to bowls of different dimensions and medium sized jars. The Late Assyrian ceramic tradition is still clearly recognizable in the general morphology of many types and some specific attributes of the repertoire. The bowl with folded grooved rim found in Locus 5 (Pl. 3: 31) recurs in Late Assyrian contexts of Fort Salmanassar in Nimrud (Oates 1959: pl. XXXV, 15 and 16). However bowls with ribbed rims similar to specimens found in loci 1 (Pl. 1: 1-2), 5 (Pl. 3: 31), 14 (Pl. 5: 53) and on the surface in area B (Pl. 10: 110) of Assyrian tradition, continue to be produced until the Seleucid period, as attested in level 3 of the Nimrud sequence, indistinguishable from the Assyrian prototypes (Oates and Oates 1958: 145, n. 13 and pl. XXIV, 13). The continuity of shapes from the Neo Assyrian into the post-Assyrian period in northern Mesopotamia has already been observed at Nimrud (Oates and Oates 1959: 133), where the Assyrian pottery tradition is still in use in the subsequent squatter settlement (1959: 130). The particularly incurved and narrow rim with flat, outer upper face of the Kuriki specimens (Pl. 3: 31, Pl. 5: 53 and Pl. 10: 110) represents an attribute apparently absent in the Late Assyrian repertoire of Nimrud and Khirbet Qasrij, in Northern Iraq (Curtis 1989: fig. 27), dating to the period comprised between the fall of Ninive and the Achaemenid period.

Even though the form is generic and can find parallels in any period, the curved bowl with simple rim (Pl. 3: 30) has a good comparison at Khirbet Qasrij (Curtis 1989: Fig. 23, 1) where we can also see a parallel in a second type of curved bowl (Pl. 3: 35; Curtis 1989: Fig. 23, 18).

The S-curved bowl (Pl. 1: 4) is a type documented in the course of the 1<sup>st</sup> millennium BC and has, for example, parallels in the nearby site of Boztepe not far from Bismil, where the remains of a house dating to the Assyrian period has been exposed (Parker, Creekmore and Easton 2001, fig. 8A) and in Jebel Khalid, on the upper course of Syrian Euphrates (Jackson and Tidmarsh 2011: fig. 16, 14). Also the curved bowl with projecting and ribbed rim (Pl. 1: 1) finds parallels in some specimens of the Hellenistic level of Jebel Khalid (Jackson and Tidmarsh 2011: fig. 31, 4).

Two fragments of so-called Achaemenid bowls, characterized by flaring upper sides (Pl. 3: 39-40), are attested in locus 5. These shallow bowls with flaring rim find comparisons in the Hellenistic repertoire of Tell Halaf (Hrouda 1962: taf. 72, 79) but also show some formal characteristics typical of a type of bowl of Iranian tradition (Dyson 1999a). A vague similarity of the curved bowl with relatively thin wall (Pl. 3: 36) can be noted with types of the Late Iron Age or Achaemenid level of Yanik Tepe, northeast of Urmia (Summers and Burney 2012: fig. 20: 16.11).

The coexistence of types belonging to the Achaemenid and Hellenistic repertoire can be observed in locus 14, the accumulation above the white floor 15, south-east of wall 2. A large curved bowl (Pl. 5: 49) shows a particular thickening of the rim documented within the repertoire of the survey at Cimin Tepe II, in the Erzincan Area, dating to the Achaemenid period (Summers 1993: fig. 7, 1), although the quoted comparison is painted. In the same context are attested other sherds belonging to bowls with in-turned rim, of Late Assyrian tradition (Pl. 3: 31-33) but documented also in later periods. Other profiles can be interpreted as a development of Late Assyrian types. The bowl in locus 5 (Pl. 3: 32) find parallels both in the post-Assyrian level of Khirbet Qasrij (Curtis 1989: Fig. 28, 94-95) and in the Achaemenid levels of Altuntepe II (Summers 1993: fig. 5, 10), Baba Jan II (Goff 1985: fig. 2, 11), Nush-i Jan and Hasanlu III (Curtis 1989: 47), and in the Hellenistic level of Jebel Khalid on the Euphrates (Jackson and Tidmarsh 2011: fig. 12, 5 and 7).

Bowls characterized by light high carination and short incurved upper side (Pl. 1: 11 and Pl. 5: 55) recall some profiles attested in the Hellenistic repertoire of Aşvan Kale, in the Keban area, dating to the 1<sup>st</sup> century BC (Mitchell 1980: fig. 28, 191). The fragmentary bowl of locus 14 (Pl. 5: 55) shows the in-turned rim popular in the repertoire of Khirbet Khatuniyeh level 3-2 (Curtis and Green 1997: fig. 59, 403), dating from the post-Assyrian to the Hellenistic period, but without the slight concavity inside. This particular concavity on the inner side of the rim and the slightly inwards curve recall respectively a morphological characteristic attested in the Hellenistic level of Aşvan Kale (Mitchell 1980: fig. 28, 127) and a type of Tell ed-Daim, in Northern Iraq, considered of Achaemenid date (Curtis 2005: 190, fig. 16). The shape of other rims (Pl. 5: 49) bears similarities to the profile of some specimens of Iron Age II and III date (Lehmann 1996: tav. 28, 176/3; Lebeau 1983: pl. 108, 6).

It is more difficult to find comparisons for the fragments of closed forms, of which only the rim is often preserved. The grooved rim of collared jar (pl. 5: 61) is similar to specimens found in the Hellenistic level of Nimrud (Oates 1968: fig. 19, 117) and represents one of the most characteristic shapes of the repertoire of phase A of Hammam et-Turkman, dating between 1<sup>st</sup> century BC and 1<sup>st</sup> century AD, with close parallels at Dura Europos (Lázaro 1988: 523 and pl. 165: 80-92 and 166). Also the profile of the outwardly-thickened rim with depressed upper side (Pl. 5: 57) is attested at Hammam et-Turkman but in a different type of jar (Lázaro 1988: pl. 165, 77). As far as the fragment of a large storage jar is concerned (Pl. 3: 41), something similar can be found at Hammam et-Turkman level X (Lázaro 1988: pl. 163, 58), on the Balikh river, in northern Syria.

Characteristic of a limited number of handles is the circular depression at the extremities, made by the impression of a finger, and a vertical groove along the whole length of the external surface (Fig. 9).



Fig. 9. Jar fragment in common ware (Area A).

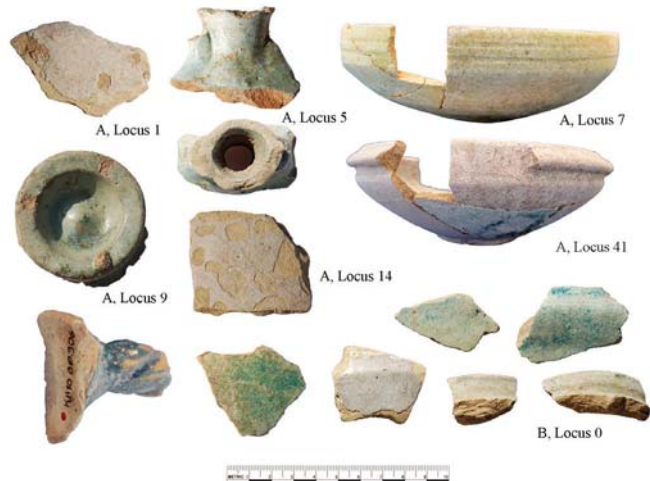


Fig. 10. Sherds and bowls in glazed ware from area A and B (level II, I and surface).

Several fragments of glazed ware have been found within the assemblage of superficial layers, the filling of the rooms, and floors (Fig. 10). All the material apparently has the same technical characteristics. Glazed ware sherds may help us to better define the date of the late occupation at the site. Glazed pots are characteristic of Mesopotamian and Parthian tradition, occurring over a wide geographical area, from Seleucia on the Tigris to Dura Europos and Tarsus (Mitchell 1980: 71) and it has been suggested that the green glazed pottery became more widespread during the 1<sup>st</sup> century BC, during the Parthian expansion. In the Syrian Jezirah the appearance of green glazed ware is characteristic of the period CJZ 2c (Classical Jezirah Chronology) from mid 2<sup>nd</sup> century BC to the beginning of 1<sup>st</sup> century BC (Katzy 2015: 42 and fig. 41). Rare glazed bowls and jars are documented in Upper Mesopotamia from the Late Bronze Age and Iron Age, of Mitannian or Assyrian tradition, but characterized by a limited repertoire of shape, mainly hemispherical bowls, small jars and beakers. But is in the following periods





Fig. 11. Fragmentary bowl in glazed ware from the floor of room 5, locus 7 (quadrangular building, level II).



Fig. 12. Fragmentary bowl in glazed ware from the paved floor 54 in Sounding 3 (level III, locus 41).

that the use and spread of glazed wares increases. In central-southern Mesopotamia green glazed ware starts to be more common in the Achaemenid period, but it seems to disappear by the Seleucid period, in favour of a whitish glaze (Gibson 1975: 15) whereas at Seleucia blue and green glaze was in use in the Hellenistic and Parthian periods (Debevoise 1934: 29). Glazed ware is also documented at Susa, Pasargade and Persepolis between 5<sup>th</sup> to 3<sup>rd</sup> cent. BC, but not elsewhere in Iran (Haenrick 1978: 80-82).

In general the fragments found at Kuriki have a blue/whitish or turquoise and greenish glaze, with a sensible variation of shades (Fig. 10). Clay is of white or yellowish colour, mineral and vegetal tempered with texture that appear in most cases soft and granular. The fragmentary bowls with greenish glazed surface and two light grooves on the upper side of the wall (Fig. 10, top, on the right; Fig. 11 and Pl. 4: 43) were been found on the floor of room 5, providing an important clue to dating the last phase of use of the building. This type in fact can be assigned to the Parthian horizon, and shows similar parallel grooves along the external surface that are also seen in a low carinated bowl from Tell Barri, in the Syrian Jezirah, but with a different profile (Guidotti, Lo Schiavo and Pierobon 2007: 325, n. 307).

The fragmentary twisted handle from Area B (Fig. 10, first on the left, at the bottom) finds parallels in the glazed repertoire of Gre Amer level 1, on the Garzan Su (Pulhan and Blaylock 2013: 402-403 and fig. 20), dated preliminarily to the mid-late 1<sup>st</sup> millennium, and is generally considered typical of Parthian jars (Debevoise 1934: fig. 256). The neck and rim of a glazed pilgrim flask is part of the repertoire of locus 5 (Fig. 10, in the middle of upper row) and enables us to find comparisons with types attested in the Hellenistic period (Oates and Oates 1958: Pl. XXVI, 6-9) and from the level III of Parthian Seleucia (approximately date 141 BC-43 AD). A fragment of the body of a second flask in Plain ware has been found in Area B, locus 8.

A second fragmentary small bowl with glazed surface from blue/turquoise to light blue almost white is characterized by slight carination and thickened rim surrounded by an external rib, interrupted two times, at two points exactly corresponding to each other (Fig. 12 and Pl. 6: 72). This bowl, found in locus 41, represents an interesting find. As far as the shape is concerned, the rim is typical of the Late Assyrian repertoire of bowls in plain, grey or red-slipped wares, popular in 7<sup>th</sup> and 6<sup>th</sup> century at Assur for example (Haller 1954: taf. 6Aa-ac), Nimrud (Oates 1959: pl. XXXV, 16), and Tell Ahmar (Green and Hausleiter 2001: 105, fig. 4) and of which also a variant in stone is known in Syria, Iraq and Anatolia (for example Hrouda 1962: taf. 51.2, 3, 36; Miglus 1996: taf. 58-60; Boehmer 1972: taf. LXXXIII, 2190; Bossert 2000: taf. 93, 1103 and 1104), but also in Parthian contexts. The specific glazed surface points, more probably, towards this later, possibly Parthian, horizon. But we cannot exclude other possibilities, at the moment. A further three fragments of glazed ware, two in whitish and one in light greenish glaze, were found in locus 5.

The accumulation of pottery sherds and soil (locus 41) found in Sounding 3, between the foundations of the elongated construction next to the main building, and in relation to a stone pavement (locus 54), identifies level III (Figs. 13 and 14). The repertoire is composed of different wares, both wheel-made and hand-made. The repertoire includes: plain wheel-made medium ware (21,5 Kg); portions of storage jars (4 kg); medium/fine (520 g) and fine ware (90 g); kitchen, with blackish burnished surface, sandy and gritty temper (1,5 Kg), of which some hand-made sherds (300 g); painted ware (40 g); hand-made sherds with organic inclusions and calcareous particles (700 g) and some sherds of grooved ware but wheel-made (40 g). Three jars and a large container, of which only some portions are preserved since these were destroyed during the construction of the elongated structure of phase II, which cut through this layer, were located on the stone pavement.

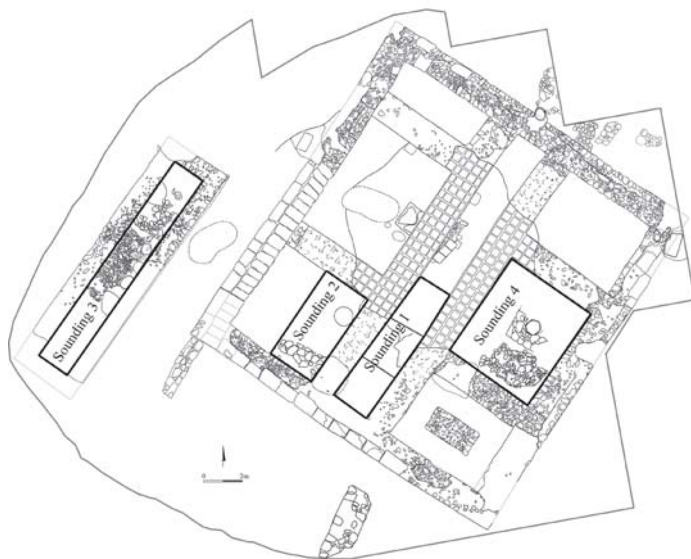


Fig. 13. Plan of Mound 1 with the buildings of level II and the test soundings opened inside the rooms where the earlier levels have been exposed (modified from Valentini 2012: fig. 3).

The plain wheel-made sherds of locus 41 belong to a tradition with roots in the Iron Age production, characteristic of Upper Mesopotamia and South-Eastern Anatolia (Fig. 15). The presence of types belonging to different kinds of production, shapes a particular repertoire. In fact, this hybrid composition can be interpreted as the consequence of post-depositional events that mixed repertoires dating to different period or may reflect a local production in which influences of different productive

traditions are evident. Small differences in shapes and surface treatments suggest most probably a post-Assyrian and Achaemenid date, and not a peripheral Late Assyrian production. The carinated bowls show clear morphological characteristics of Late Assyrian origin (Pl. 6: 67-70). Among these, the specimens characterized by a large outside thickened rim (Pl. 6: 69) find comparisons at Khirbet Qasrij (Curtis 1989: Fig. 24, 33), with some differences regarding the curve of the external side, above the carination. Other parallels with the assemblage of Khirbet Qasrij can be found for the large bowl with in-curved side (Pl. 7: 74 and Curtis 1989: Fig. 29, 99). The large bowl with low outwardly-thickened rim shows some characteristics typical of the so-called '*mortaria*' of Tell Mardikh VIA 3, large bowls usually with the outer surface marked by corrugations and dating to the 5<sup>th</sup> century BC (Mazzoni 1984: 109 and Fig. C: 6). Some rims (Pl. 7: 76) are documented in the 1<sup>st</sup> millennium BC and in use till the end of the period (Lehmann 1996: tav. 9, 59/2; Lebeau 1983: pl. 102, 5).



Fig. 14. The stone floor of level III exposed in the Sounding 3, between the foundation walls of the elongated building of level II. From South-East.

Other types are part of a different manufacturing tradition (Fig. 16a and Pl. 8). The ware is coarse or medium-coarse, gritty, completely or partially hand-made and with burnished surfaces. The clay has vegetal and mineral inclusions in different percentages and with varying compositions. Texture, inclusions and surface treatment are different from the hand-made repertoire of the sequence exposed in the deep Sounding 1, opened through the corridor of the building and dating to the Late Chalcolithic/beginning of the Early Bronze Age. The repertoire of hand-made bowls and pots of locus 41 belong to a local Iron Age horizon connected with the Anatolian cultural milieu of the highlands. Other specimens have been found on the surface of the site and in other superficial contexts. Hole-mouth pots and jar are the most frequently attested whereas deep bowls seems to be rare. Some sherds have deep grooves with well-defined edges on the rim or on the upper portion of the wall (Fig. 16b). According to the shape and technology they are an expression of the Grooved Ware horizon, dating from the Early to Middle and Late Iron Age (D'Agostino 2016; Matney 2010: 138; Ökse, Görmüş and Atay 2010; Ökse *et al.* 2014). The spread of this hand-made repertoire covers a huge geographical area, encompassing Eastern Anatolia, the North-western Iran and the Trans-caucasian area (Bartl 1989; Roaf and Schachner 2005; Konyar 2005; D'Agostino 2012: 218-219). Deep bowls and hole-mouth pots with grooves on the upper side, attested also in other loci (Pl. 9: 97-101), are well documented in the Upper Tigris valley although some types of our repertoire show a particular profile of the rim (Pl. 9: 125) or very deep and irregular grooves apparently not common in other repertoires of the valley, as emerges for example from a comparison with the profiles of the repertoire of the nearby sites of Hirbemerdon Tepe (Guarducci and Laneri 2010: figs. 10 and 11), Kavuşan Höyük (Kozbe 2008: figs. 10-19) or Ziyaret Tepe (Matney *et al.* 2005: 58-59). No precise parallels have been found for the types which are better character-



ized morphologically and with well-defined formal attributes. The rim of one of our hole-mouth (Pl. 8: 89) is similar to a coarse cooking pot found at Baba Jan III (Goff 1985: fig. 3, 14 and 11). Similarly, the upper side of the wall of another pot, marked down from the shoulder (Pl. 8: 94), represents a very unusual profile, with no manifest parallels a part from a sherd coming from Zeviya Tevilki, on the Tigris (Ökse *et al.* 2014: 184, n. 287) and a generic resemblance with a painted jar from Yanik Tepe, in the Iranian Azerbaijan, but in the Ardabil style and with an applied band on the shoulder (Burney 1962: Pl. XLV, 32; Summers e Burney 2012: fig. 9, 6). Other loci yielded specimens of grooved pots (Pl. 9: 97-101), showing a lack in standardization of shape and clay inclusions.



Fig. 15. Wheelmade pottery sherds from level III.

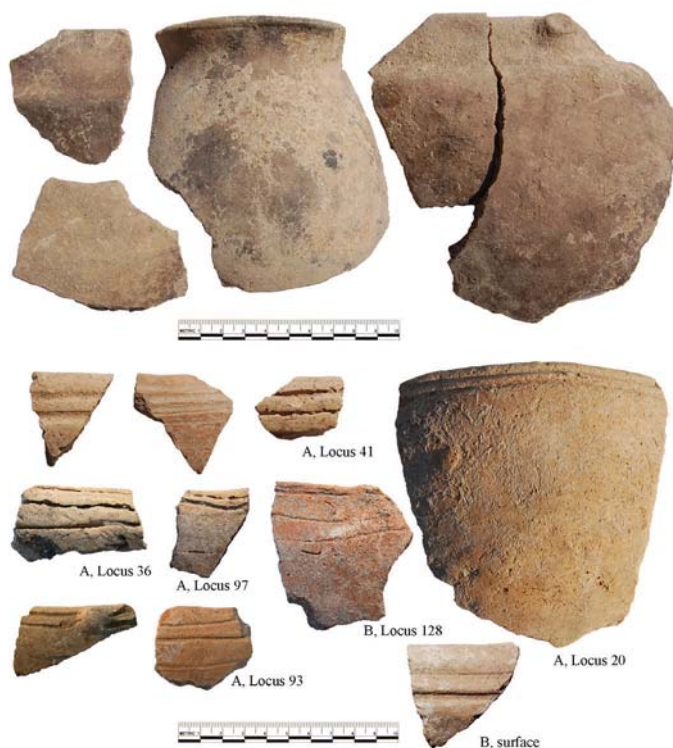


Fig. 16. a: Handmade pottery sherds; b: Handmade sherds with grooves under the rim. From level III.

Together with this hand-made repertoire also specimens of finer wares have been found. A fragmentary fine beaker is decorated with narrow, painted dark orange bands (Fig. 17). It has a fine texture with no visible inclusions except some microscopic white calcareous inclusions and particles of mica; the surface is highly burnished, almost polished. A little bottle with constricted neck found at Khirbet Khatuniye (Curtis and Green 1997: fig. 38, 159) shows a similar profile of the body but differs from our specimen in that the neck, in our case, is wider, making it closer to the shape of a beaker. The appearance of painted bands





Fig. 17. Wheelmade fine pot with painted decoration from the paved floor 54 in Sounding 3 (level III, locus 41).

and the surface treatment, with traces of vertical finishing, recalls characteristics of the *rhyton* of Khirbet Khatunya, but dating to the Late Assyrian period (Curtis and Green 1997: pl. XVI).

The bowl in glazed ware (Pl. 6: 72), mentioned above, has a flat and squared rim similar to the tripod-bowl found at Khirbet Qasrij (Curtis 1989: 48 and Fig. 30, 112-115) with parallels in Nimrud (Oates 1959: XXXV, 15-16), although the general shape diverges in the incurved upper portion of the side and the dimension of the rib. This type of bowl can be in fine ware, grey ware, buff and pinkish wares and in many cases has a brightly burnished red slip surface. The fragmentary bowl found at Kuriki shows that a glazed version of the bowl with ribbed rim probably was in use in the later periods. The occurrence of the ribbed rim bowls is however documented also in the Parthian period.

The couple of sherds from locus 54 (Pl. 9: 95-96), the floor found in Sounding 3, belongs probably to an earlier horizon and to be considered residual in this context.

Superficial layers of areas A and B as well as loci 5, 9 and 18 returned a limited number of sherds that show impressed motifs on the surface (Fig. 18). Impressed stamp decoration starts to be documented in the course of the Neo-Assyrian period, although rare, but becomes a distinctive feature of the Hellenistic horizon of Upper Mesopotamia, as documented from the pottery repertoire at Nimrud (Oates and Oates 1959: 128-129), whereas in the south this practice was characteristic of the Achaemenian period. In particu-



Fig. 18. Sherds with impressed and incised decorative motifs (level II, I and surface).

lar, some jar fragments are decorated with impressed patterns including leaves and circular motifs with rays dividing the interior, defined otherwise as wheels or suns. The leaf impressed motifs are similar to those found in the Hellenistic level of Nimrud and characteristic of this period (Oates and Oates 1958: Pl. XXII, 1 and XXI, 19; Mallowan 1966: fig. 266-267), documented also at Tell Halaf (Katzy 2015: taf. 22e-j). The tradition of decorating pottery through the use of stamp impressions is documented also at Dura Europos and is to be related with the Hellenistic practice (Dyson 1968: 52), although some of these decorative motifs have a long life and continue to be used in the following periods (Dyson 1968: fig. 21, n. 18 and 73 for the 'sun' and n. 67-68 for the leaf; tav. VI, 374 and tav V, 336, 345, 352). For example the leaf stamps have been dated to the Parthian period (Haenrick 1983: Pl. II, 8, middle and late phases; Hrouda 1962, taf. 83, 4) and specimens from Dura, arranged generally in ordered rows, date probably to the 3<sup>rd</sup> century AD, but representing close parallels for the impressed sherds of the Hellenistic level at Nimrud. Also the circular motif with rays dividing the inner part, a sort of descendant of the earlier rosette motif, is considered Parthian (Haenrick 1983: Pl. II, 9) and similar stamps have been found at Tell Halaf (Hrouda 1962, taf. 85, 13 and 14) and Dura (Dyson 1968: 52).

A further decorated fragment confirms the framework of references here delineated. The fourth sherd of a small jar in the first row (Fig. 18) recalls the decoration of the small bottle from Nimrud (Oates and Oates 1958: Pl. XXI, 13), with incised dot and line pattern, a rare specimen, dating to the end of Hellenistic occupation. No parallels have been found for the curvilinear motif that reminds a sort of curl (Fig. 18, top, on the left).



Fig. 19. Zoomorphic head, probably part of a *rhyton* (surface layers).

The band of a sharp zig-zag line, wolf's tooth shaped, excised on the surface of pots (Fig. 18, fourth specimen of second row) finds comparisons in the Hellenistic levels of Nimrud (Oates and Oates 1958: Pl. XXI, 15 and 16), Tell Halaf (Katzy 2015: taf. 24a-b), Dura Europos (Dyson 1968, pl. IV: 328), Tell Halaf (Hrouda 1962, taf. 75: 27) and at Seleucia on the Tigris where a single band or two of chevron patterns on the shoulder is attested in level I, dating to the Parthian period, 2<sup>nd</sup> century AD (Debevoise 1934, 23 and plate B: figs. 1-2). The red-brown paint covering the surface recalls a feature of the Hellenistic repertoire of Nimrud where the surface is often characterized by the application of a wash or a slip (Oates and Oates 1958: 126).

For the zoomorphic head with opening at the extremity of the snout,

probably part of a *rhyton* (Fig. 19), no precise parallels have been found. Also for the hand-made bowl finished on the wheel with a painted blackish band on the inner side (pl. 6: 62), we have no clear parallels; we cannot exclude that it belongs to an earlier horizon and may be considered residual in this context.

The superficial loci of Kuriki mound 2, Area B, returned a similar picture for the late phase of occupation. In the 2010 campaign only eroded remains of wall foundations and pits were found but the assemblage seems coherent and pertaining mainly to later periods. A representative sample of sherds have been collected that can help to date the upper levels of Kuriki 2. The hemispherical bowl with in-turning side (Pl. 10: 103-104) is a distinctive shape (Stein *et al.* 1996: Fig. 16D and E) popular for example at Nimrud, in the Hellenistic level (Mallowan 1966: 306, fig. 292; Oates 1968: Fig. 15: 14-16; Oates and Oates 1958: 126), Tell Halaf (Katz 2015: taf. 29, 02-2Ab and 02-2B), Jebel Khalid (Jackson and Tidmarsh 2011: fig. 11) or in the Hellenistic level of Aşvan Kale (Mitchell 1980: fig. 27, 165-172). This group of bowls is characterized in many cases by a painted reddish-brown band usually around the rim but in some cases covering the upper portion of the wall or the entire bowl. Only one of the sherds found at Kuriki (n. 259) shows traces of matt painting. However a variant of this type of bowl without painted band has been documented (Oates and Oates 1958: fig. XXIII, 30-31; Parmegiani 1988: 63). The curved bowl with out-thickened narrow folded rim (Pl. 10: 105) finds comparisons in Khirbet Qasrij (Curtis 1989: Fig. 28, 89). A comparison for the shallow bowl with large rim (Pl. 10: 107) is at Yanik Tepe (Summers and Burney 2012: fig. 7: 1) and a prototype for this shape characterized by a less pronounced carination, with thickened and flat rim, is at Kharabeh Shattani, although this latter is painted (Baird, Campbell, Watkins 1995: fig. 33, 9).

The patterns of painted fragments are similar to those documented in Area A. The sherds of shoulders with a wavy line delimited by two horizontal narrow bands (Fig. 7b, bottom, left) reproduce motifs attested in other sites of the Tigris valley, at Giricano (Schachner 2002: abb. 15, at the base of the neck) and Gre Amer on the Garzan Su (Pulhan, Blaylock 2003: fig. 16, centre).

Glazed sherds are similar to the specimens found in Kuriki 1 mound, with a prevalence of bluish and whitish nuances (Fig. 10).

A few specimens of hand-made sherds has also been found (Pl. 10: 111-112) as well as bowls with in-turned folded and ribbed rim of Late Assyrian tradition (Pl. 10: 110).

#### SMALL FINDS

A bow brooch (*fibula*) made in bronze and iron was found in the superficial layers of Kuriki (Fig. 20). The *fibula* lacks the foot and the iron pin, of which remain traces of corrosion in relation to the head-end where the spring would been attached, is lost. The arched bow is decorated and it widens toward the head-end. Along the outer surface of the bow run two raised ridges delimited by three parallel grooved segments. The incisions are deep; the section of the *fibula* is squared and the edges of the arc are sharp. The type with receptacle ending

in a knob found at Dura Europos (Frisch and Toll 1949: Pl. X, 6), on the Syrian Euphrates, close to the Iraqi border, is similar to our *fibula* in terms of the decoration of the external face of the bow, but differs in the shape of the hinge, that is of a type not documented at Dura. Other specimens with a hinged pin (Frisch and Toll 1949: 47 and Pl. X, 7-19) have similar morphological attributes, but in the case of the fibula of Kuriki, the foot and the end where the pin closes are not preserved. Our specimen is similar to, or re-elaborates some characteristics of the so-called 'Aucissa' types, which were widespread throughout Near Eastern regions from the 1<sup>st</sup> to 2<sup>nd</sup> century AD. The 'Aucissa' *fibulas*, was very popular in the 1<sup>st</sup> century but probably in use until the late 2<sup>nd</sup> and 3<sup>rd</sup> century in the decorated variants, and spread from Europe to Russia and the Near East, probably introduced by Roman soldiers.



Fig. 20. Fragmentary bronze and iron fibula.



Fig. 21. Fragmentary bronze elbow fibula (surface layers).

A second bronze *fibula*, again found in the superficial deposit, belongs to the so-called elbow type with triangular bow (Fig. 21), spread from Persia to Egypt. Most of the spring and pin are missing and portions of both arm and forearm are very corroded. The hand-shaped foot-end is preserved. The general shape recalls Stronach's triangular types III: 7-8 (Stronach 1959: 198-201, fig. 9 and 10), very popular in western Iran around the mid-8<sup>th</sup> to 7<sup>th</sup> century BC, well documented in Assyria and in use for a long time, in the Achaemenid period and until the 1<sup>st</sup> century AD, for example at Dura (Curtis 1984: 30; Frisch and Toll 1949: Pl. X, 1-3 for the general shape). The corrosion prevent us from distinguishing the details of the decoration on the body.

Regarding the small fragment of a mould-made oil lamp (Fig. 22), found in the ashy layer above the floor of room 5 (locus 7), there are not suitable comparisons in the region. It belongs probably to the sloping shoulder of a type decorated with impressed oblique segments or rays and has the filling hole surrounded by a thickened ring; a raised horseshoe-shaped element, framing below a small protuberance, interrupts the band of oblique segments. Due to the reduced dimensions of the fragment, covered by a layer of red slip, we have minimal indications for assigning it to a specific typology. In general, the lamp with rays motifs appeared around the 2<sup>nd</sup> to 1<sup>st</sup> century BC. The horseshoe-shaped application recalls the crescent moon motif or the small raised circle with central globule near the base of the nozzle documented in a group of lamps from Dura Europos, but more complex than in our





Fig. 22. Fragment of a mould-made oil lamp (level II, locus 7, room 5).

specimen (Baur 1947, *tav.* VI: 260, 262, 263). The decoration of the shoulder with a band of oblique, parallel, linear segments refers to a pattern with some general parallels in two different categories of lamps found at Dura Europos. The first comprises specimens of lamps moulded in two parts catalogued as type V, group 7 (Baur 1947, 41 and *tav.* VIII: 287, 290), characterized by a circular rope pattern and a globule in a crescent on top, dating to the middle of the 3<sup>rd</sup> century AD, but with a different profile. The second category is formed by lamps of type X (Baur 1947: *tav.* XIII, 404, 407, 411) consisting mainly by surface finds from the Main Gate, and offers a further general comparison, although the examples in the plates are on the whole different. These lamps must have belonged to the period following the destruction by Sassanians, probably to the

4<sup>th</sup> to 5<sup>th</sup> centuries AD (Baur 1947: 70). Also some specimens of mould-made lamps found at Seleucia on the Tigris (Debevoise 1934: *figs.* 372 and 375; 231: *fig.* 381), covered by a red wash, show a similar decoration with short segments.

A fragmentary baked clay plaquette, with moulded relief and background, has been found in the superficial layers (Fig. 23). The representation shows a nude woman with hands placed on the breasts or supporting them. A three-strand necklace is around the neck. Traces of bitumen are visible on the left shoulder and at the front edge of the broken neck. The head is not preserved.

In the superficial layers, particularly of area B, there are some other small objects associated with weaving activities, such as clay spindle whorls (Genç, Yıldız Köse and Köse 2015: 464 and *res.* 9-10).



Fig. 23. Fragmentary baked clay plaquette (from a pit in A2, locus 76).

## CONCLUSIVE REMARKS AND HISTORICAL CONSIDERATIONS

The excavations at Kuriki have allowed us to shed light on a settlement dating from the post-Assyrian to Parthian period, currently a subject little investigated in this region due to a scarcity of new evidence. Structures, pottery and the few objects provide contextual evidence useful in drawing up a rough sequence of occupation as well as materials for reference. The picture that emerges is certainly fragmentary but some elements can be useful for further considerations on the history of settlement in this border region north of Tur Abdin.

The site of Kuriki lies in close proximity to rivers, and at a crossing point of the Batman Çayı. The building with stone ashlar, at the highest point of the site, is the most clearly exposed structure and would probably have been part of a larger settlement of which are traces remains exposed on the Kuriki 2 mound, heavily disturbed by the intense, agricultural surface activity. For the date of the construction of the building and its reuse we have only a few elements that can help us outline the possible alternatives and limit the chronological range. The shape of the ashlar and their arrangement together with some sherds, objects and stratigraphic considerations are the main pieces of evidence that furnish a basis for our analysis.

The use of ashlar and the presence of drafted margins alone do not constitute firm elements for a possible date of the first building construction. A similar way of finishing the ashlar with the rough external faces and slightly embossed or flat and dressed only at the edges of the frame in contact (*anathyrosis* technique) is known in different regions of Near East starting from the Late Bronze Age and the Iron Age (Boardman 2000: 21-35; Anastasio 2011: 71-74; Bessac *et al.* 2004: 44-47, in general, for the stone working technique). This masonry technique is attested, to mention only a few reference cases, in Central Anatolia (Naumann 1955: 70-71) at Eflâtun Pınar, in coastal Syria at Ugarit, in Assyria (Boardman 2000: 21-35), at Kalkhu (Mallowan 1966: fig. 379), at Assur (Andrae 1938: 172, fig. 173) in the Halzi and Maski Gates of Nineveh (Pickworth 2005: fig. 20 and 21; Madhloom 1969: 45-47 and tav. 4), at Jerwan (Jacobsen and Lloyd 1955: 9, tav. 9B) but also in the west, at Samaria as well as in pre-Persian Sardis; in Urartu, at Toprakkale or in the stone blocks of the fortification walls at Ayanis (Çilingiroğlu 2001a: fig. 6 and fig. 9) and roughly finished in the foundations of the temple (Çilingiroğlu 2001b: 39 and fig. 3), and where traces of finishing of the stones on site have been recognised. This finishing method is also used in Achaemenian architecture (Nylander 1965 and 1966). Although this working technique is already attested in a limited number of sites between the Late Bronze and the Iron Age, the following centuries see its wider affirmation. In particular, the shaping and arrangement of the ashlar is characteristically Hellenistic. The typical and widespread use of courses of headers and stretchers with dressed margins and protruding bosses in the centre was particularly frequent during the Hellenistic period, when usually the walls were built both of ashlar with headers facing outward and stretchers facing inwards, or alternating headers and stretchers. In Kuriki we have no evidence of this alternating way of arranging the ashlar as only one course survived. Parallels can be found in sites of Palestine dated between the 4<sup>th</sup> and 2<sup>nd</sup> century BC where the Hellenistic influence is documented (Akko, Dor, Samaria, Straton's Tower, Sah'ar ha-Amakim) and the arrangement is particularly clear in the square, tower-like structure, found at Kibbutz Sah'ar ha-Amakim, in lower Galilee, 15 km from Haifa (Segal and Naor 1989: 428) and in the massive wall of the

lower city of Akko, in Area E (Dohtan 1976: 40, fig. 41 and 41, fig. 44). Other examples are in the main Hellenistic sites of Anatolia and Syria.

The only installation preserved inside the building is represented by the remains of a fireplace, but it is insufficient proof to determining a more precise date. However, to provide simply a general parallel and a cultural/geographical references milieu, its characteristic position against the eastern wall of room 5, is reminiscent of the hearths found in rooms 10 and 30 of the level X building at Tille Höyük, on the Euphrates river, dating to the Achaemenid period (Blaylock 2009: 199-200 and Fig. 8.13 and 8.29).

The typology and construction technique of the building, dressing of stones, the way the courses were laid could suggest a date around the 3<sup>rd</sup> or 2<sup>nd</sup> century BC. The original construction program was probably never finished and, in the end, the building was completed using a different masonry technique. We are not certain about the exact chronology of when the work began or was concluded, or the phase of reuse but it is likely that all of these fell between the Hellenistic and Parthian periods.

Further information about the last periods of use of the site is provided by the assemblage found on the surface and in relation to the structural remains. Study of the pottery sherds has enabled chronological phases and functional areas to be established or suggested. The ceramic assemblage from Kuriki represents a degenerate sample, greatly affected by ploughing and other activities of the local villagers. Dating precisely the ceramic assemblage is a difficult task, in the absence of any clear sequence of reference in the area and largely dependent on fine wares and a limited number of shapes which, though easily recognizable and frequent in other regional repertoires, are not necessarily documented everywhere. However, the few ceramic types and wares found in situ, above the floor of room 5, allow us to date with some certainty the last phase of use of the building to the Parthian period. The findings of the filling within the rooms encompass a longer time span of about eight hundred years, from the post-Assyrian period until the Parthian. This is the result, first of all, of the agricultural activity that cut through different levels and mixed and spread materials all over the surface of the mound. The ancient movement of soil caused by the building program on the summit of Kuriki 1 and the pits obliterating large portions of the site are other causes that have contributed to altering the composition of the archaeological records. The pottery repertoire shows a sort of post-Assyrian imprint in terms of the morphology and finishing technique used, as well as some characteristics that may be considered Achaemenid or pre-Hellenistic, with a few Hellenistic (though not fully developed) and Parthian elements. All the typical and proper attributes of the Hellenistic production are attenuated and few formal characteristics can be recognized, but the lack of fish-plates, ledge-rim plates and typical carination (Dyson 1999b: 105 for bibliography) deprives us of the most important diagnostic elements for identifying the repertoire of this phase. This absence could also suggest a feeble influence of the Hellenistic style on the repertoire of Kuriki, either because the level dates to before the start of this influence or because it belongs to a local horizon with very few imported elements. At Kuriki imported wares are absent or in a couple of cases not fully identifiable given the poor state of preservation of the sherds. Instead, the Hellenistic aspect of the ceramic assemblage is very limited because the construction of the building began in the Hellenistic phase but was completed and used mainly in the subsequent periods.

Elements belonging to Achaemenid tradition are few, but the understanding of Achaemenid pottery is problematic (Simpson 1995: 142-143), particularly its presence in northern Mesopotamia and South-eastern Anatolia. The repertoire is not clearly distinguishable even in the Assyrian sites of Northern Iraq or Syria (Baird, Campbell, Watkins 1995: 101). At Nimrud, for example, in the South-East palace, very little material was recovered in direct association with this phase (Oates and Oates 1958: 119). Many shapes used during the Achaemenid period existed in the previous period or are a development of Assyrian prototypes, and the absence of a strong cultural influence from Persia, led to the local tradition persisting and only gradually developing in something different.

As for the interregional connections, the analysis of our repertoire showed a principal recurrence of southern and eastern influences at work in the pottery repertoire: Upper Mesopotamian and Iranian sites offer many good parallels for morphological and, occasionally, technological comparisons (painting and surface treatments).

As for the levels below the building, locus 41 shows a discrete quantity of sherds and fragmentary pots. The coexistence of a glazed bowl, a fine beaker and hand-made ware fragments, together with common ware pots makes it difficult to propose a certain date for this context, not excluding the presence of residual sherds and possible intrusions due to the above mentioned post-depositional events concerning the superficial layer of the site. The glazed bowl indicates a later date, approximately between the Achaemenid and the Hellenistic periods but other elements contribute to complicate the picture. First of all the presence of the common ware repertoire is inadequate for defining a better dating, consisting mainly of a local production with a few fine and external products. There are no well dated or fine grained sequences for this period into which our repertoire can be fitted. In general the pottery of the post-Assyrian levels is almost indistinguishable from that of the phases that immediately precede and follow, not only in the Assyrian heartland, but also on the Euphrates, for example (Summers 1993: 88), with only a few clearly identifiable differences and the introduction of only a few forms. The bulk of types are of local origin and less prone to change in the short term or as a consequence of political events, even when these were important. There is a persistence of the Upper Mesopotamian ceramic tradition, with a conservative repertoire of shapes and in many cases wares (Oates 1959; Oates and Oates 1958).

The hand-made pots show however morphological characteristics that are dissimilar to the typical attributes of the Upper Tigris assemblage, and this could suggest a later date or different variants within the same cultural horizon. In any case, if we consider the continuity of grooved wares also in the Late Assyrian period, according to recent results of excavations and studies (Matney 2010, 138; D'Agostino 2016: 114-115; Ökse *et al.* 2014), this means that the levels below the building have materials belonging to the local Middle to Late Iron Age horizon. This repertoire could be a late development of an Upper Tigris Iron Age horizon, with the addition of some imported fine pots or, otherwise, a mixed context where the intrusive units of soils have not been enucleated in the course of excavations, given its proximity to the surface. In the first case, the repertoire of locus 41 has a post-Assyrian imprint with elements that we can consider Achaemenid and others that anticipate some characteristics of the productions of later periods. It is worth mentioning that the Batman valley was probably part of Šubria, a pending border zone between Assyria and Urartu (Kessler 1995; Parker 2003; Radner and Schachner 2001), and as consequence of its position the material evidence could reflect influences from both Northern and Southern regions.



Our considerations lead us to believe that the pottery assemblage of Kuriki is characterized by a production that maintains a strong local character, typical of the hills of South-eastern Anatolia, with links towards both the southern plains of Mesopotamia and the East, the mountainous environment between Van and North-western Iran. The continuity with the Iron Age Assyrian and hand-made tradition of the Upper Tigris valley is evident as well as the appearance of some new inserted elements of eastern origin. The fine ware imports are scarce and the new formal elements appear to be assimilated and re-elaborated. The composition of our repertoire is similar to that of Gre Amer level I, on the Garzan Su, a left-bank tributary of the Tigris river, (Pulhan and Blaylock 2016: 347 and 349), considered of proto-Hellenistic date, where glazed ware considered Parthian is associated with sherds decorated with painted triangular motifs of Achaemenid date in Western Iran.

To date, the later sequence of Kuriki 1 can be divided into three main phases: the lower phase identified by locus 41, the phase of construction of the building and the later phase of its use and abandonment with all the loci and filling found inside the rooms. Despite the archaeological context having been greatly disturbed, certain considerations have led us to propose two general timespans for the life of the settlement. The lower level can be dated to the second half of the 1<sup>st</sup> millennium BC, possibly from the 6<sup>th</sup> to the end of 5<sup>th</sup> and first half of 4<sup>th</sup> century, encompassing the post-Assyrian and the Achaemenid periods, and possibly the beginning of the Hellenistic period. The construction of the building can be dated to the Hellenistic/Seleucid period, approximately from the 3<sup>rd</sup> century BC and continued to be in use (otherwise was completed and firstly used) during the Parthian period and, according to some sporadic surface finding, the beginning of Sassanian control over the region, until the first centuries of the Common Era, probably the 3<sup>rd</sup> or 4<sup>th</sup> century AD. A more precise date is difficult to determine. The structure and probably the settlement of Kuriki had fallen into disuse in the second half of 4<sup>th</sup> century AD, given the apparent absence of materials dating to more recent periods, and diagnostic of Sassanian period, for example<sup>2</sup>. The abandonment of the site after the destruction of Tigranocerta by Shapur II and as consequence of the new organization of area under the Sassanians must remain a hypothesis at this stage, but an intriguing hypothesis.

It is useful here to introduce some remarks on the main events concerning the territories along the left bank of the Batman Çayı (the ancient Nymphius) and the northern bank of the Tigris. During the later periods, the history of the area is complex and rich in events, and here it is important to highlight a few general points which should be taken into account in understanding settlement development in the area north of Tur Abdin.

For the post-Assyrian (612-539 BC) and Achaemenid periods (539-330 BC), the region between the Batman Çayı and the Tigris river has yield little evidence and the general picture of events is still obscure. According to Xenophon (*Anab.* III 5, 16; IV 3, 1-4; IV 1, 1-4) the mountainous area on the left bank of the Tigris and along the Botan Su, where the Ten Thousand, during the retreat towards the Black Sea, encountered the warlike Carduchians, was not subject to the Persian king (Sinclair 1989: 358). We know that these territories were influenced by the Armenian principalities and passed under the control of the Seleucids, whilst maintaining a degree of autonomy. Around the middle of 3<sup>rd</sup> century BC the Parthians started to show interest towards the West, threatening the Hellenistic kingdoms in this region and ex-

<sup>2</sup> The only doubt concerns sherds of a jar with impressed curvilinear motif (Fig. 18, first two sherds of the upper line, on the left), at the moment without any parallels with the repertoires of Achaemenid, Hellenistic or Parthian date.

panded their area of control at the expense of the Seleucids during the first half of the 2<sup>nd</sup> century BC, with Mithridates I of Parthia. The nominal vassal status of the Upper Tigris region, only nominal, was maintained until the battle of Magnesia in 189 BC, when it was divided into the independent kingdoms of Sophene and Corduene. The area comprised between the Batman, Bitlis and subsequently the Botan rivers was the territory of what later became known as Arzanene, the region of Aghdznik, part of the historical Greater Armenia. The consequences of Rome's expansion eastwards, with the campaigns against Tigranes II of Armenia, Mithridates VI of Pontus and Antiochus I of Commagene between 69 and 63 BC, and the annexation of Syria, led to a direct confrontation with the Parthians. In this area, east of Batman Çayı, is located Tigranocerta (probably to be identified with Arzen on the Garzan river), the city founded in the early 1<sup>st</sup> century BC by Tigranes, captured by the Roman general Lucullus in 69 BC and then destroyed by the Sassanian king Shapur II the Great in 364 AD (Sinclair 1989: 361-365).

The area on the north bank of the Tigris river was disputed between Romans, Parthians and then, after 226 AD, Sassanians (Yorulmaz 2014). The Parthian presence is documented by reliefs at Boşat, in the area of Silvan, dating to the end of 2<sup>nd</sup> or beginning of 3<sup>rd</sup> century CE and at Fenik, downstream on the Tigris river and on the Kızıl Su (Sinclair 1989: 281-282; Algaze 1989: 249-250; Marciak 2014: 40). Until the time Trajan, the border between Parthia and Rome ran along the Euphrates but, after the conquests of Septimius Severus, it was difficult to define a stable, new border between the two empires. The border then moved to the Tigris at the time of Diocletian, from the 3<sup>rd</sup> century onward and until the 4<sup>th</sup> century (Whitby 1983: 205). The agreement of 298 AD between Galerius and Narset of Persia, brought under Roman control and as allies the Arzanene and other Armenian principalities (Sinclair 1989: 367-369).

The eastern bank of the Batman Çayı, where Kuriki is located, was controlled by Sassanians after the rearrangement of the border in 363 AD, as a consequence of the disastrous campaign of Julian (Sinclair 1989: 366-367) and that of 384 AD. From 363 AD this line represented the western frontier of the Sassanians where their presence was consolidated. It is however not completely clear whether the eastern boundary of the Arzanene returned at some point under Roman control during this period but with the agreement of 591 AD the border between the Eastern Roman/Byzantine and Sassanian empires was moved eastwards, to the Botan river (Howard-Johnston 1989: 204, fig. 14.1).

In particular the importance of this territory is due to the roads connecting the area of Nisibis to Amida and Melitene and towards the North-east, in direction of Armenia. North and north-east of Kuriki were located the two important cities of Martyropolis/Silvan and Tigranocerta/Arzen as well as the Bitlis pass towards the mountains of Van and Armenia. The establishment of the capital of Tigrane II at Tigranocerta, to be identified probably with Arzen, produced a network of surrounding settlements and an increase in population, and the strategic importance of the area in the following periods lead to posts being established to control roads, fords and borders.

We can only speculate that the strategic position of Kuriki is due to a probable ford on the Batman Çayı, of secondary importance but related to the main bridges of the Roman period at Köprüköy, west of the confluence of the river with the Tigris, and Harap, upstream on the Batman (Comfort 2009: 67-71), whereas the Tigris was probably crossed around Bismil (Sinclair 1989: 365). In addition Kuriki enjoyed a favourable position where trade and mutual contacts across the border between Romans and Persians could have taken place, with influences flowing from different directions.

The settlement developed its importance in relation to both rivers and at a certain point assumed a more defined role, probably as a guard-post erected to control a passage across the Batman Çayı and within the communication network of the northern bank of the Tigris, or to oversee movements along the river. A route from Diyarbakır to Lake Van, went along the Tigris and crossed the Batman by a ford (Sinclair 1989: 286, 295). It is likely that the main route crossed the river further upstream but other secondary tracks existed, in the network of paths along the west-east axis and towards the South, also used by travellers in the 19<sup>th</sup> century and still in use until recent times. In this regard, it is worth mentioning that, according to the old hypothesis of H. Kiepert (Müller 1994: 21, fig. 3; French 1998: fig. 4), the Persian Royal Road followed the Tigris and crossed the Batman here, although today a different route is preferred, through Diyarbakır, Çınar and Mardin down to Nusaybin. This to underline that the topography and geography of the area fits well with the possible presence of an old path crossing the lower course of the Batman Çayı. However the Batman flows over a broad gravel bed that in proximity with the confluence, is only a few centimetres deep and can be forded<sup>3</sup>. At time of low water, the possible natural ford across the river could have provided a more direct passage towards the East, along the northern bank of Tigris, connecting with the important naturally fortified site of Hasankeyf/Cepha, Çattepe/Tilli, where the Botan enters the Tigris and the paths passing through the Tur Abdin.

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<sup>3</sup> The Tigris, on the other hand, flows in a deep bed, with a strong current and can be crossed only with the use of rafts. The traditional 'kelek', constructed from wood and recycled tyres, cords and nails, are still used by villagers for the comings and goings between the banks of the river.

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## POTTERY CATALOGUE

## Key: abbreviations in use

**n**: number of sherds as referred to the drawing in the figures.

**KHn**: inventory number used in the Kuriki Höyük database.

**Area**: area of provenience.

**Loc**: locus.

**L**: level of occupation.

**W**: ware – **Cf**: Plain ware with great amount of chaff; **F**: Fine Ware; **Gl**: Glazed Ware; **Gr**: Grooved Ware; **K**: Kitchen Ware; **O**: Orange Fine Ware; **P**: Plain Ware; **Ph**: Plain handmade Ware; **Pt**: Painted Ware; **Rs**: Red Slip Ware; **Sg**: 'Sigillata' ware.

**Fc**: Functional classes (first letter) – **C**: Common and table wares; **K**: Kitchen wares; **S**: Storage and long term preservation wares; **F**: Fine ware.

**E**: texture evaluation (letters in second and in some cases third position) – **f**: fine; **mf**: medium-fine; **m**: medium; **mc**: medium-coarse; **c**: coarse.

**ST**: surface treatment, type of coat and secondary treatment (first letter) – **1**: rough, no coat/treatment; **2**: primary (no slip); **3**: self-slip; **4**: slip/painting; **-**: not visible; Capital Letters in the second position, **B**: burnished; **S**: smoothed; **V**: vitrified.

**Fa**: fabric and main inclusions – **V**: vegetal; **M**: mineral; **MV**: mineral (main inclusions) and vegetal; **VM**: vegetal (main inclusions) and mineral.

**Inc**: inclusions visible to the naked eye (in order of relative quantity) – **c**: chaff/straw, very minuscule vegetal inclusions well minced; **cf**: chaff and straw, large vegetal inclusions, straw and sometimes fragments of stalk; **calc**: microscopic calcareous particles, limestone; **gr**: grits, rounded; **m**: mica; **s**: sand. – Dimensions of inclusions can be in some cases specified, **f.**: fine inclusions of tiny dimensions; **sm.**: very minuscule inclusions; **lg.**: large sized

inclusions. – In some cases also the quantity of inclusions is specified, **h.**: high quantity of; **l.**: low quantity of.

**Colour**: main colours visible in surface. In case two or more colours on the same sherd, they are registered in the same field, separated by a comma (,); the colour after slash (/) is a secondary nuance that we can distinguish but not so defined to identified a second main colour; the semicolon (;) separates colours of the external surfaces from the internal, if different (in some case the third colour, following the second ';' is referred to the section; generally the colour of section is mentioned in the 'remarks' box, if different; if not specified the section colour is the same as the colour of inner surface; if only one colour is indicated, the fragment has a homogeneous colour, out, in and in section); 'core' indicates the colour of the central part of the broken section (this information can be in the column of the remarks for reason of not sufficient space in the box of the colour). In case of particular changing nuances we use the expression 'tending to' (abbreviated in 'to'). Abbreviations used – **b.**: black; **bf.**: buff; **bl.**: bluish; **br.**: brown or brownish; **d.**: dark (followed by a colour, is an indication of its intensity); **ge.**: green or greenish; **gr.**: grey or greyish; **l.**: light (followed by a colour, is an indication of its intensity); **or.**: orange/light red; **p.**: pale (followed by a colour, is an indication of its intensity); **pi.**: pink or pinkish; **r.**: red or reddish; **wh.**: white or whitish; **y.**: yellow or yellowish.

**Remarks** – **burnish.**: burnishing; **sect.**: section; **smooth.**: smoothing.

**T**: forming technique – **H**: handmade; **W**: wheelmade; **HW**: handmade and finished on the wheel.

Digitization of pottery drawings: Raffaella Pappalardo and Gemma Alfonso.

## Descriptions

n	KHn	Area	Loc	L	W	Fc/E	ST	Fa	Inc	Colour	Remarks	T
1	25	A	1	I	P	Cf	2B	M	mc	br.	almost polished	W
2	31	A	1	I	P	Cf	2B	M	mc	l.br.	compact texture	W
3	27	A	1	I	P	Cf	2B	M	mc	y.	smoothed inside; EBA?	W
4	23	A	1	I	P	Cmf	2S	M	h.mc, calc	l.br.	traces of burnishing	W
5	28	A	1	I	P	Cm	2S	MV	h.calc, mc, cf	bf. to y./b.		W
6	34	A	1	I	P	Cm	2S	M	calc, s, m, gr	bf. to y.	traces of burnishing	W
7	33	A	1	I	Ph	Cm	2S	MV	h.mc, cf, calc	d.br.	traces of burnishing	HW
8	36	A	1	I	P	Cm	2BS	MV	h.mc, l.c, s	br., r.		W
9	37	A	1	I	P	Cm	2S	MV	h.mc, s, l.c	bf. to br./r.	core of the section grey	W
10	24	A	1	I	P	Cf	2B	M	h.mc	br./r.		W
11	30	A	1	I	O	Cf	2SB	M	mc	or.	vertical burnish out and in; smoothed out	W
12	32	A	1	I	P	Cmf	2BS	MV	h.mc, calc, l.c	r.br.	traces of burnishing; grey section	W
13	38	A	1	I	P	Cm	3S	MV	h.mc, f.calc, l.c	bf. to g./or.	bf./or. to gr. section	W



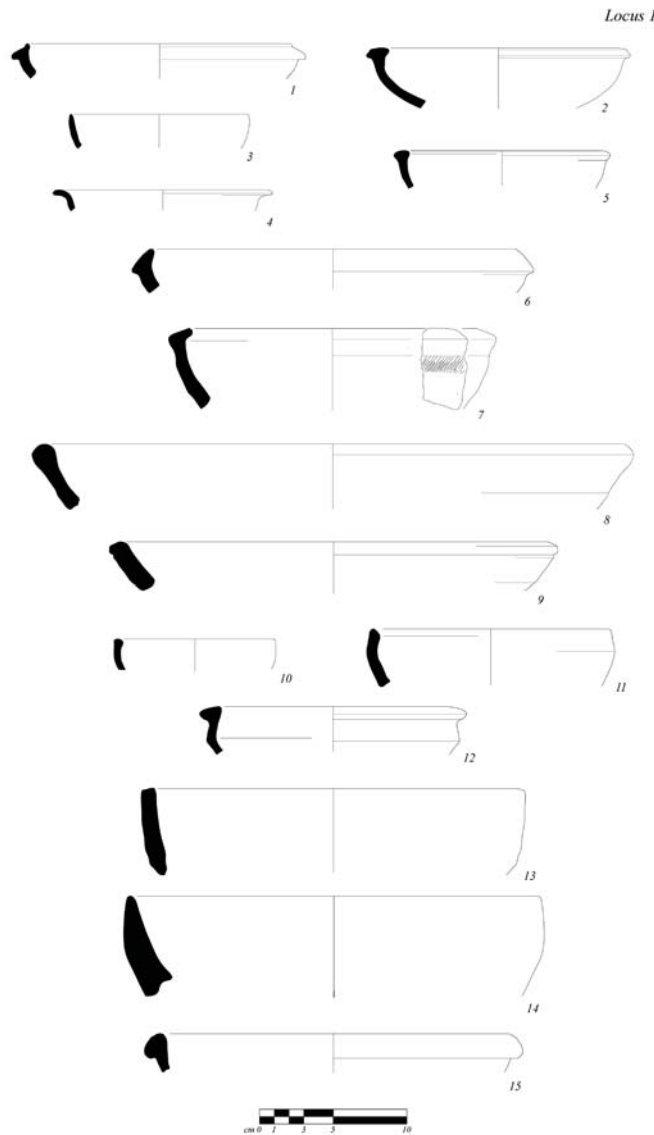


Plate 1. Kuriki Höyük, mound 1: pottery from surface (locus 1, topsoil).

n	KHn	Area	Loc	L	W	Fc/E	ST	Fa	Inc	Colour	Remarks	T
14	1	A	1	I	Ph	Cm	2B	VM	cf, mc	bf. to g./l.br.	br. to gr. section	HW
15	43	A	1	I	P	Cm	2S	MV	mc, c, s	d.br. to d.gr.	grey section	W
16	10	A	1	I	Pt	Cm	4S	M	h.gr, calc, mc	bf. to or./pi./gr.	orange paint; traces of burnishing; gr. section	W
17	63	A	1	I	P	Sc	2S	VM	c, gr., calc, mc	br./r.	white grits; d.gr. section (sandwich effect)	W
18	46	A	1	I	P	Cmf	2BS	VM	h.mc, l.calc	bf. to br.	inside smoothed; few clumps in surface	W
19	47	A	1	I	P	Cm	3S	VM	mc, calc, l.c	bf to l.bf	dark grey section; carefully smoothed	W
20	29	A	1	I	P	Cmf	2S	M	h.mc, f.calc, f.s	d.br.	grey section; fine sand	W
21	16	A	1	I	P	Cmc	2S	M	gr, mc, s, calc	gr./br.; gr. core	large grits; stamped decoration; porous inside	W
22	132	A	1	I	Pt	Cm	2S	M	h.mc and gr.	l.br. to r./br.	rounded grits; orange/light red paint	W
23	13	A	1	I	Pt	Cm	2S	M	calc, s, sm.gr	bf. to or.	black paint	W

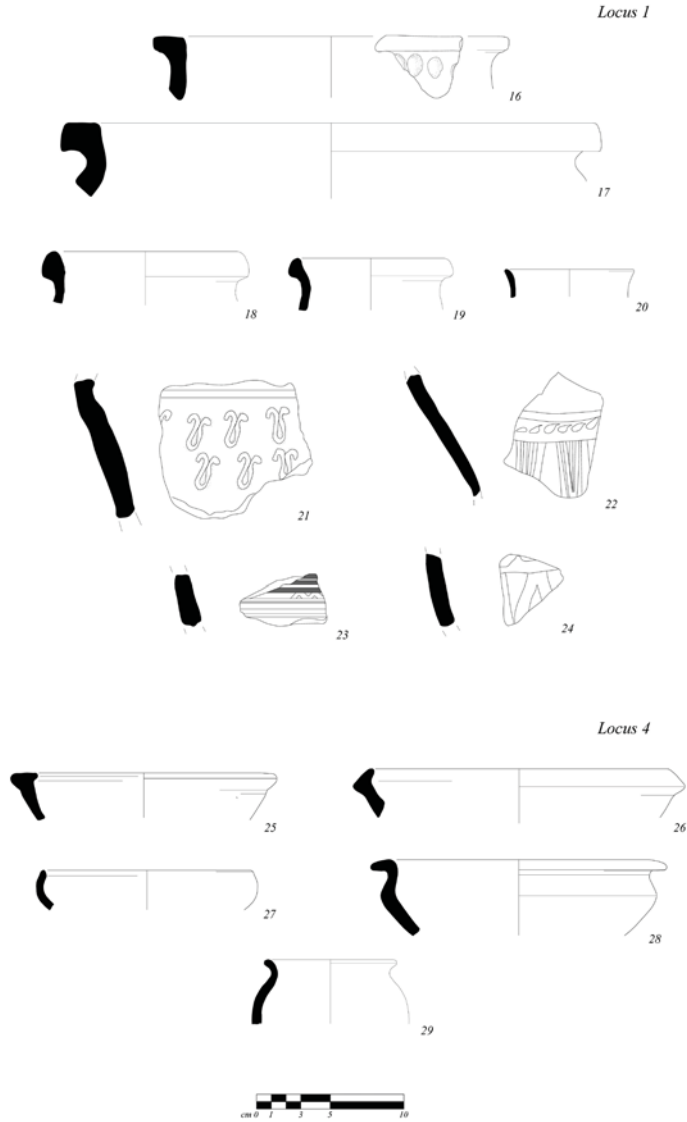


Plate 2. Kuriki Höyük, mound 1: pottery from surface (locus 1) and north-west of wall 2 (locus 4, layer of soil below locus 1).

n	KHn	Area	Loc	L	W	Fc/E	ST	Fa	Inc	Colour	Remarks	T
24	12	A	1	I	Pt	Cm	2S	M	s.gr, mc, calc	bf. to gr.	dull red paint	W
25	194	A	4	I	Rs	Cf	4S	M	mc, s	l.r.; gr. sect	traces of burnishing; reddish grey in section	W
26	195	A	4	I	Pt	Cm	2S	MV	h.m, c, l.gr., l.calc	bf. to br.	traces of red paint on the rim	W
27	192	A	4	I	Pt	Cm	3S	M	mc, s	bf.	flaked; porous surface; black paint on the rim	W
28	197	A	4	I	P	Cm	2S	M	gr, m	pi.	pinkish grey section	W
29	199	A	4	I	P	Cm	2S	M	mc, f.s, l.calc	ge.; pi.	roughly smoothed; porous; overfired	W
30	81	A	5	I	Rs	Cm	4B	M	gr, mc, s	pi.	red slip; brown tending to grey section	W
31	90	A	5	I	P	Cm	2S	VM	c, h.mc, l.s	gr.		W
32	94	A	5	I	P	Cm	2S	VM	c, mc, s	br. to gr.	traces of burnish; accurately minced chaff	W
33	91	A	5	I	P	Cm	3B	M	mc, s,	br. to gr.; br/bf	grey section	W

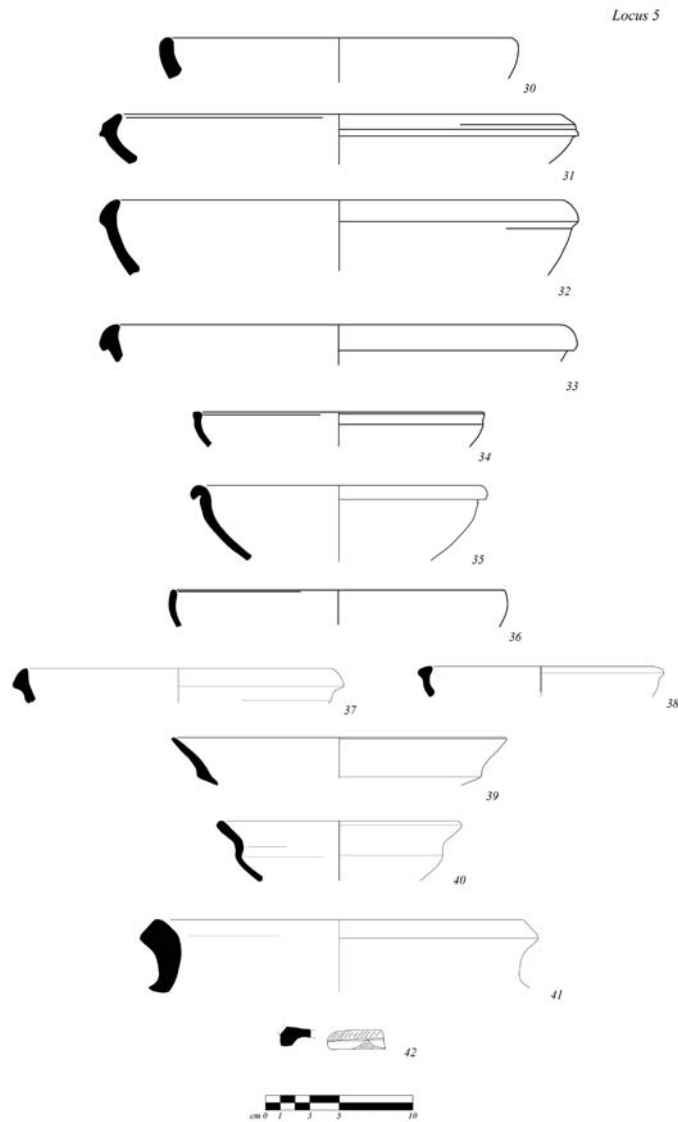


Plate 3. Kuriki Höyük, mound 1: pottery from surface (locus 5, layer of soil below locus 1).

n	KHn	Area	Loc	L	W	Fc/E	ST	Fa	Inc	Colour	Remarks	T
34	76	A	5	I	P	Cf	2B	M	h.mc, h.f.s	r.br.		W
35	966	A	5	I	P	Cmf	2S	M	h.mc, calc	l.r.br.		W
36	75	A	5	I	P	Cmf	2B	M	h.mc, l.f.s	br. to y.		W
37	86	A	5	I	P	Cf	2S	MV	mc, f.s, calc., l.c	bf.	buff tending to light grey sect.; sporadic chaff	W
38	87	A	5	I	P	Cf	2B	M	h.mc, s	bf.; pi.	pinkish section	W
39	969	A	5	I	P	Cf	2B	M	mc, l.calc	l.r.br.	compact texture; horizontal burnishing	W
40	78	A	5	I	P	Cf	2S	M	h.calc, h.mc	bf.	buff tending to orange section	W
41	114	A	5	I	P	Sf	2S	M	h.gr, mc, l.f.calc	pi.	digital imprints; clumps along wheel lines	W
42	981	A	5	I	Pt/ Sg	Cf	4S	M	mc	r.	compact matrix; stamped motifs inner surface	W
43	139	A	7	II	GI	Ff	4V	M	s, mc, sm.gr	ge.	greenish surfaces with bluish nuances	W

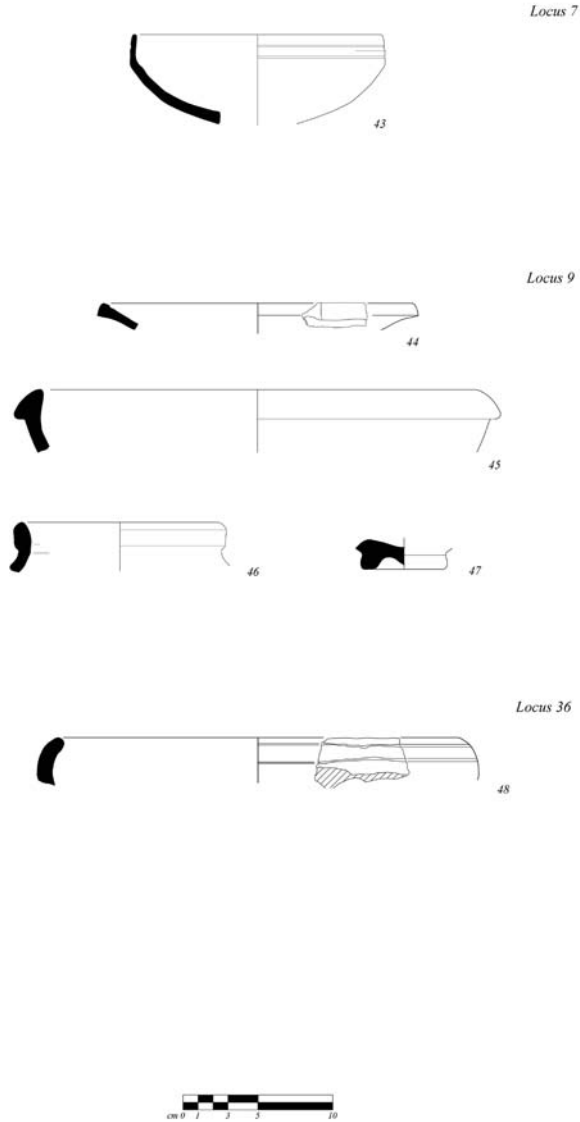


Plate 4. Kuriki Höyük, mound 1: pottery from level II (locus 7, on the floor of room 7; locus 9, between the quadrangular and elongated buildings and 36, between foundations walls of room 4).

n	KHn	Area	Loc	L	W	Fc/E	ST	Fa	Inc	Colour	Remarks	T
44	129	A	9	II	Rs	Ff	4S	M	mc	r.br., b.	wheel lines clearly visible	W
45	219	A	9	II	P	Cm	2S	VM	c, h.mc, l.calc	gr.; b.	buff section	W
46	222	A	9	II	K	Km	2S	M	calc, gr, s, mc	d.br., b.	burned	W
47	217	A	9	II	Gl	Ff	4V	M	gr, mc, l.calc	bl., ge.	medium sized white grits	W
48	1522	A	36	II	Gr	Cm	1	VM	c, gr, mc, calc	p.y; pi.	pink section; deep and irregular grooves	H
49	158	A	14	II	P	Cm	2S	M	mc, s	bf., pi.	grey section; clay bumps along wheel lines	W
50	157	A	14	II	P	Cm	2S	VM	c, mc, sm.gr, s	d.br., l.br.	grey section; blackened by fire	W
51	160	A	14	II	P	Cm	2S	M	h.mc, f.s, sm.gr	or.		W
52	159	A	14	II	P	Cm	2S	M	calc, sm.gr, s	gr.; bf. to br.	grey sect.; superficial encrustations (limescale)	W
53	156	A	14	II	P	Cm	3S	M	mc, calc, f.s, l.c	bf. to br.		W
54	152	A	14	II	P	Cf	2B	M	h.mc, l.calc	br., gr.br		W



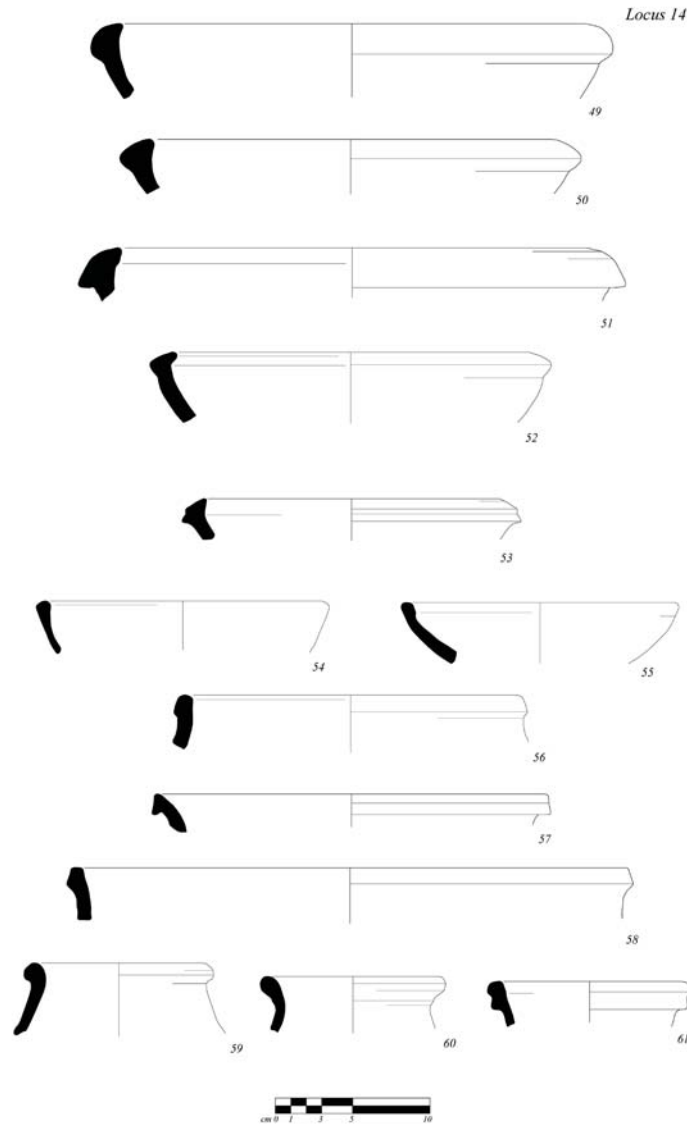


Plate 5. Kuriki Höyük, mound 1: pottery from level II (locus 14, above the white floor 15, south-east of wall 2).

n	KHn	Area	Loc	L	W	Fc/E	ST	Fa	Inc	Colour	Remarks	T
55	154	A	14	II	P	Cm	2S	MV	s, calc, mc, l.c, gr	bf. to l.br./y.	some rounded white and black grits	W
56	175	A	14	II	K	Kc	3B	MV	s, h.gr, mc, c	b., br.; br.	light brown sect.; small and large grits; gritty	H
57	162	A	14	II	P	Cm	3B	MV	mc, c, s	bf. to l.br.	traces of burnishing; well minced chaff	W
58	170	A	14	II	P	Cf	3S	MV	mc, l.s, l.c	bf. to l.br.	rare vegetal inclusions; buff to grey section	W
59	172	A	14	II	P	Cf	3S	M	h.mc, l.f.s	bf.	buff to grey section; accurately smoothed	W
60	171	A	14	II	P	Cmf	2S	M	mc, f.s	l.r.	grey section	W
61	174	A	14	II	P	Cm	3S	MV	h.calc, s, l.c	bf to gr.	light red section	W
62	13b	A	41	III	Pt/Cf	Cmc	3S	VM	h.cf, mc	d.gr., l.gr., r.br.	black paint band on the inner side of the rim	HW
63	348	A	41	III	P	Cm	3S	VM	c, mc, l.calc	bf. to l.br./l.r.	rare calcareous particles; light red section	W

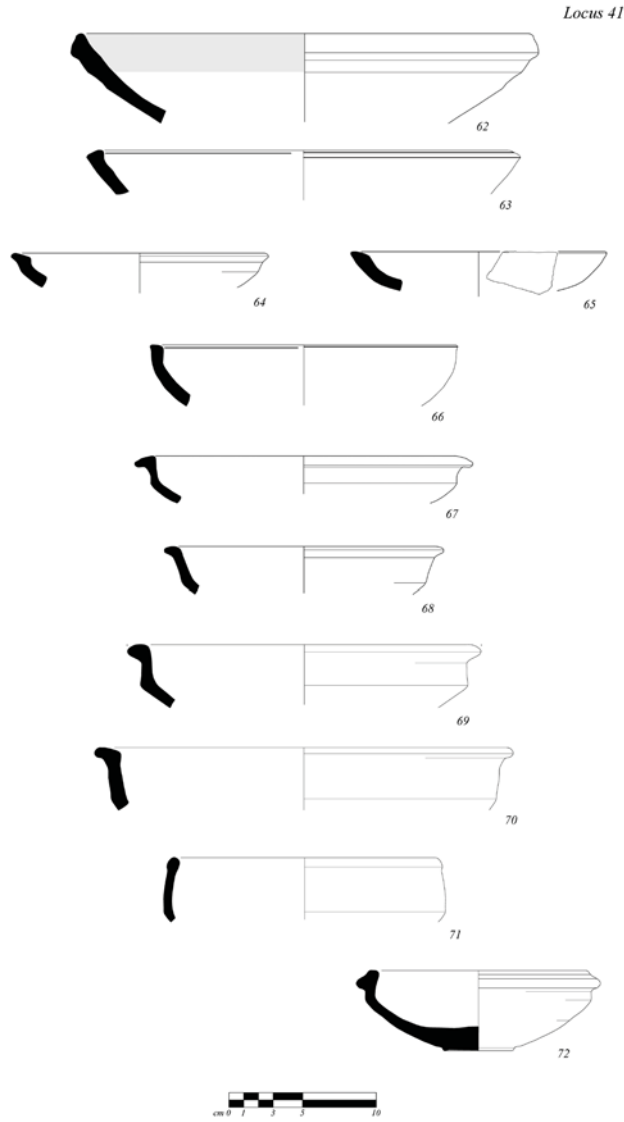


Plate 6. Kuriki Höyük, mound 1: pottery from level III (locus 41, on the floor 54, test sounding 3).

n	KHn	Area	Loc	L	W	Fc/E	ST	Fa	Inc	Colour	Remarks	T
64	92	A	41	III	P	Cm	2B	MV	s, calc, h.mc, c	br.; d.gr	sandy; rare vegetal fragments; dark grey sect.	W
65	102	A	41	III	P	Cm	2S	VM	h.c, mc, l.s	l.r.br.	roughly smoothed	W
66	337	A	41	III	P	Cm	2B	MV	h.mc, c	r.br.	brown to grey section; roughly burnished	W
67	97	A	41	III	P	Cm	2S	MV	h.mc, c	l.r.br.; gr. core	wheel lines not visible, evenly smoothed	W
68	99	A	41	III	P	Cm	3S	MV	h.mc, l.c, l.gr	p.y.; l.r.; l.gr.	sporadic grits; one large flake of gold mica	W
69	343	A	41	III	P	Cmf	3BS	M	h.mc, l.s, l.calc	r.l.br.; gr. core	smoothing under the rim	W
70	342	A	41	III	P	Cm	3B	MV	mc, l.calc, l.c	r.bf.	reddish to light grey section	W
71	344	A	41	III	P	Cm	3S	MV	mc, c	bf. to l.br./gr.		W
72	336	A	41	III	F	Gl	4V	MV	mc, l.c, l.s	bl., wh.	three stacking spurs inside	W
73	10b	A	41	III	P	Cf	2B	M	h.mc, calc	l.r.br.; l.r. core	burnished by small strokes	WH

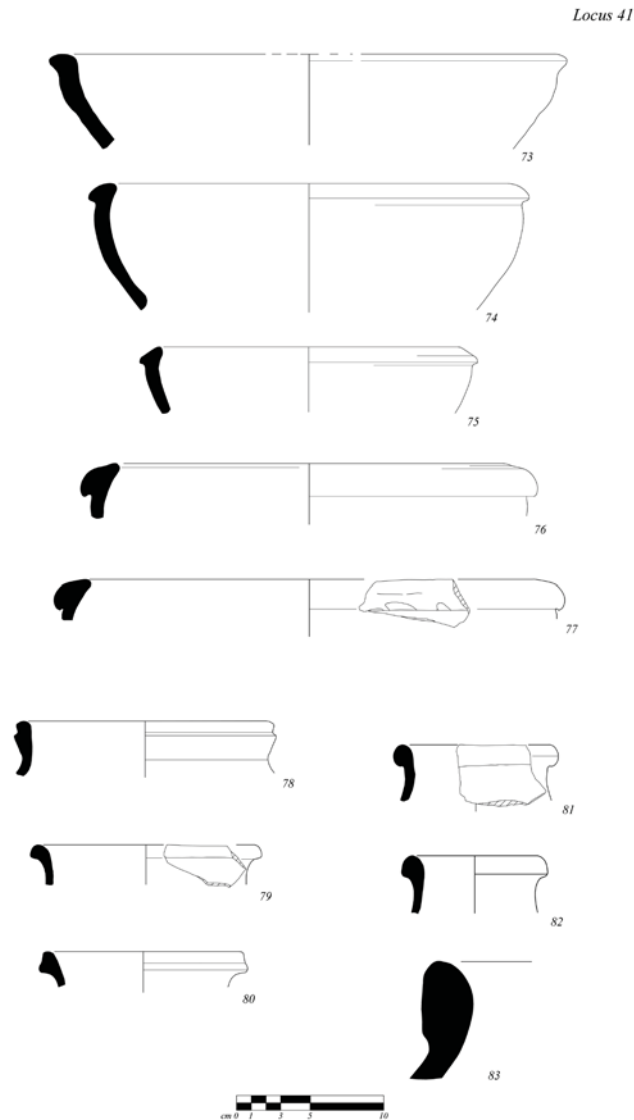


Plate 7. Kuriki Höyük, mound 1: pottery from level III (locus 41, on the floor 54, test sounding 3).

n	KHn	Area	Loc	L	W	Fc/E	ST	Fa	Inc	Colour	Remarks	T
74	341	A	41	III	P	Cm	3B	MV	h.mc, l.c, l.calc	r.l.br.	r.gr. sect.; horizontal and vertical burnishing	W
75	340	A	41	III	P	Cm	3S	VM	h.c, calc, mc, l.gr.	bf. to r.	orange core; sporadic whit grits	W
76	345	A	41	III	P	Cm	3S	MV	h.mc, c	d.br.	d.r.br. section	W
77	103	A	41	III	P	Cmf	3S	MV	h.mc, c, l.gr	l.r.br.	roughly smoothed	W
78	17	A	41	III	P	Cm	2-	M	gr., calc, mc	pi.	angular grey grits; surface treatment not visible	W
79	106	A	41	III	P	Cm	2S	MV	h.mc, c, calc	r.y.		W
80	16b	A	41	III	P	Cm	3S	MV	mc, l.c, s	pi.		W
81	104	A	41	III	P	Cm	3S	VM	c, mc, l.gr.	p.y.; l.y.br.	pink section; roughly smoothed	W
82	351	A	41	III	P	Cm	3S	MV	h.c, mc, l.sm.gr	bf. to pi./l.br.	sporadic rounded grits; bf. to gr. section	W
83	361	A	41	III	S	Cm	2B		c, mc, calc, l.gr.	l.br.; or.	grey to dark section; rough inner surface	W

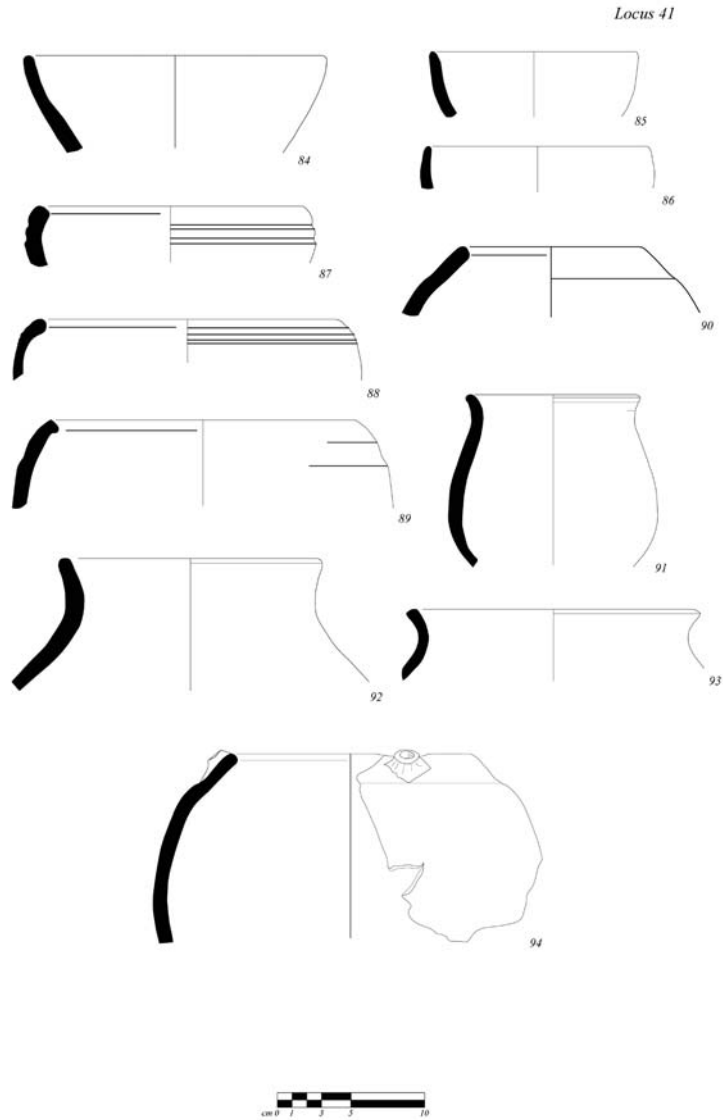


Plate 8. Kuriki Höyük, mound 1: pottery from level III (locus 41, on the floor 54, test sounding 3).

n	KHn	Area	Loc	L	W	Fc/E	ST	Fa	Inc	Colour	Remarks	T
84	11	A	41	III	Ph	Cmc	1	VM	h.c, calc	l.r.br.; d.gr.	reddish yellow section	H
85	346	A	41	III	Ph	Cm	2SB	VM	h.c, mc, l.calc, gr	or.	oblique and horizontal smoothing and burnish.	HW
86	347	A	41	III	Ph	Cm	2SB	VM	h.c, mc	or.; l.gr. core	roughly smoothed, traces of burnishing	H
87	354	A	41	III	Gr	Cm	2B	VM	c, mc, l.sm.gr	bf. to l.br/y.	sporadic small rounded grits	HW
88	355	A	41	III	Gr	Cm	2BS	MV	mc, l.s, l.gr, l.c	br.r	inner rim burnished; inside smoothed	H
89	357	A	41	III	K	Km	2B	M	s, gr, mc, l.calc	l.br., gr., d.gr.		H
90	359	A	41	III	K	Km	2B	M	s, m, l.gr	l.br. to gr./d. gr.	oblique and vertical burnishing; encrusted	H
91	358	A	41	III	K	Km	2B	M	s, mc, gr. l.calc	gr., l.br., b.	vertical burnishing; neck encrusted; quartzite	H
92	352	A	41	III	Ph	Cm	-	M	h.c, mc, calc	l.r., d.gr.; l.r.	encrusted; black and orange spot; grey section	HW



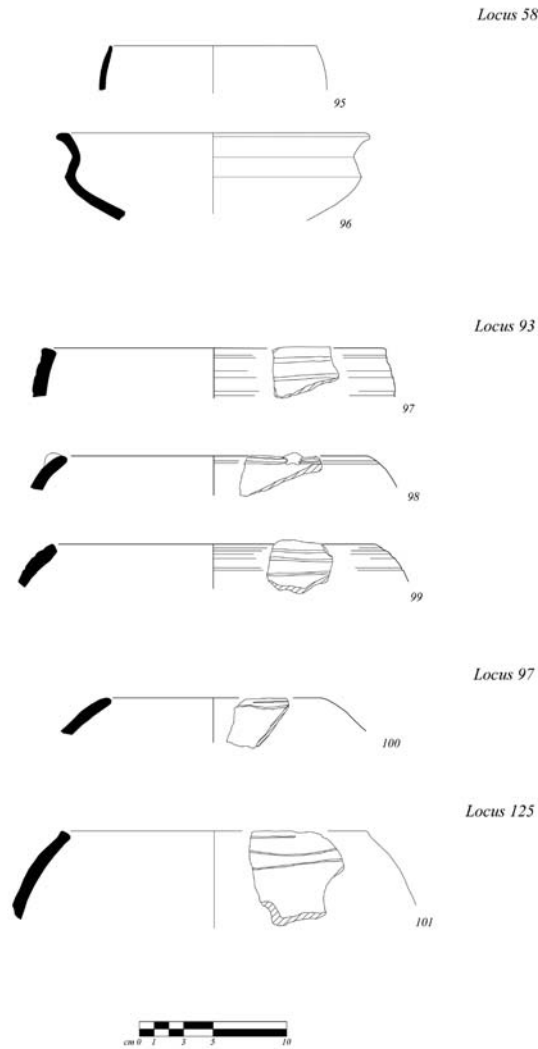


Plate 9. Kuriki Höyük, mound 1: pottery from level III (locus 41, on the floor 54, test sounding 3).

n	KHn	Area	Loc	L	W	Fc/E	ST	Fa	Inc	Colour	Remarks	T
93	353	A	41	III	Ph	Cmc	-	VM	c, mc, gr., l.c, s	l.r.	sporadic large and medium sized grits	H
94	360	A	41	III	K	Km	2B	M	s, mc, gr.	l.br, gr., b.	grey section; encrusted inside; lug on the rim	H
95	23	A	54	III	F	Of	2B	M	mc, f.calc	or.	compact texture; out and in burnished	W
96	22	A	54	III	P	Cmf	3S	M	calc, mc	p.y.; pi.; gr.	quite compact; grey section	W
97	855	A	93	III	Gr	Cm	2B	M	s, mc, l.gr., l.calc	l.br.gr.	few grey grits; grey section	H
98	687	A	93	III	Gr	Cm	2S	M	s, sm.gr, l.m	l.br., br.	white and grey grits; oblique smoothing	H
99	619	A	93	III	Gr	Cm	2SB	M	gr, s, l.mc, calc	pi.	rough smooth., traces of burnish.; soapy inside	H
100	914	A	97	II	Gr	Km	1	M	s, calc, gr., l.mc	p.br.; br. core	very gritty; angular grits of various colours	H
101	1212	A	125	IV	Gr	Cm	1	M	h.calc, h.s	l.r.	superficial grooves	H

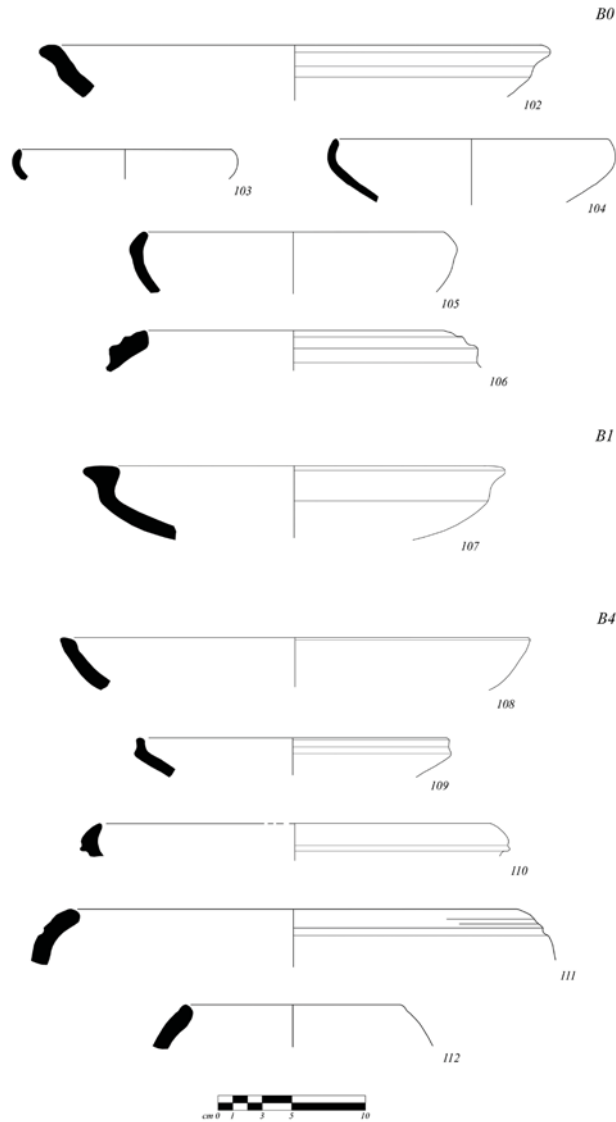


Plate 10. Kuriki Höyük, mound 2: pottery sherds from surface.

n	KHn	Area	Loc	L	W	Fc/E	ST	Fa	Inc	Colour	Remarks	T
102	30	B	0		P	Cm	2S	VM	h.m, c, calc, gr	pi.	small rounded grits	W
103	33	B	0		F	Cf	-	M	h.m	pi.	compact texture	W
104	54	B	0		Pt	Cf	2S	M	mc, l.calc, gr	p.y.	d.gr. paint; roughly smoothed; concretions	W
105	58	B	0		P	Cf	2S	M	h.mc, l.calc	pi.; r.y. core	compact texture	W
106	38	B	0		P	Cmf	2S	M	calc, gr	l.r.	surface porous and encrusted; black grits	W
107	76	B	1	I	P	Cmf	2S	M	mc, calc, s	l.r.	no visible wheel lines; smooth to the touch	W
108	1293	B	4	I	P	Cm	2S	MV	h.f.calc, mc, gr, c		sporadic white grits and chaff well minced	W
109	1144	B	4	I	Gl	Ff	4V		mc, f.s	bl., w.	pale yellow section	W
110	1303	B	4	I	P	Cmf	3S	M	s, calc, gr	p.y.; o.,gr. core	small and medium sized white grits; compact	W
111	1300	B	4	I	Gr	Cm	1	M	h.mc, s, l.calc	l.r.br.; r.g. core	soapy	H
112	1291	B	4	I	Ph	Cm	1	M	calc, s, l.mc, gr	l.r.br.	sporadic grits	H

## BASALT LANDFORMS AND THE PREHISTORY OF EASTERN SMOOTH CILICIA AND NORTHERN HATAY

Bakiye Ykmen Edens\*

### *Abstract*

*Survey and excavation in northern Hatay and Smooth Cilicia (Adana and Osmaniye) have largely failed to find Palaeolithic and Aceramic Neolithic sites. The author here reports two seasons of a survey focused specifically on and around basalt landforms in Ceyhan (Adana), Erzin (Hatay) and Hassa (Hatay). The survey succeeded in finding Palaeolithic and Aceramic Neolithic, and later prehistoric, chipped stone. These results are presented and some of the implications of the results are discussed.*

### INTRODUCTION

Both Hatay and Smooth Cilicia have a long history of archaeological survey, beginning with pioneering projects in the 1930s and 1950s (Braidwood 1937, Seton-Williams 1954). These projects focused on mounds and other readily visible sites. Most subsequent surveys in Hatay (e.g. Alkım 1969, Casana and Wilkinson 2005, Gerritsen *et al.* 2008) and eastern Smooth Cilicia (summarized in Rutishauser *et al.* 2017 fig. 4) added to regional site inventories but without greatly changing the research focus. This research agenda has directed attention away from early prehistory (here understood as Palaeolithic and Pre-Pottery Neolithic periods). Excavation programs, with some exceptions, have repeated this bias. As a result, several important Pottery Neolithic settlements have seen excavation – Yumuktepe in Mersin (Garstang 1953, Caneva and Jean 2016) and Tell el-Judeideh in Hatay (Braidwood and Braidwood 1960) are the obvious examples – but not earlier sites. The only notable exceptions to this generalization are the Palaeolithic surveys and excavations in caves of the Samandağ area and open air localities in northern Yayladağı and nearby uplands south of the Orontes river (e.g. Şenyrek 1961; Şenyrek and Bostancı 1958a, 1958b; Bostancı 1971, Kuhn *et al.* 2009, Baykara *et al.* 2015), and survey along the Taurus foothills (e.g. Kkten 1958). In consequence, much of Hatay and all of Smooth Cilicia remain without documented occupation earlier than the Pottery Neolithic. This invisibility does not reflect the absence of early prehistoric occupation of these regions. Rather, geomorphological processes have either eroded away early prehistoric sites or have buried them deeply beneath alluvial and colluvial sediments.

In 2016 the author began a continuing survey program designed specifically to find prehistoric chipped stone in Smooth Cilicia and northern Hatay.<sup>1</sup> The survey focuses on the

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<sup>1</sup> The Early Prehistory and Cilicia Basalt Locations Project (EPKİBAP) thanks the Kltr ve Turizm Bakanlıđı for research permits to conduct the 2016 and 2017 survey seasons. I especially thank the ministry representatives,

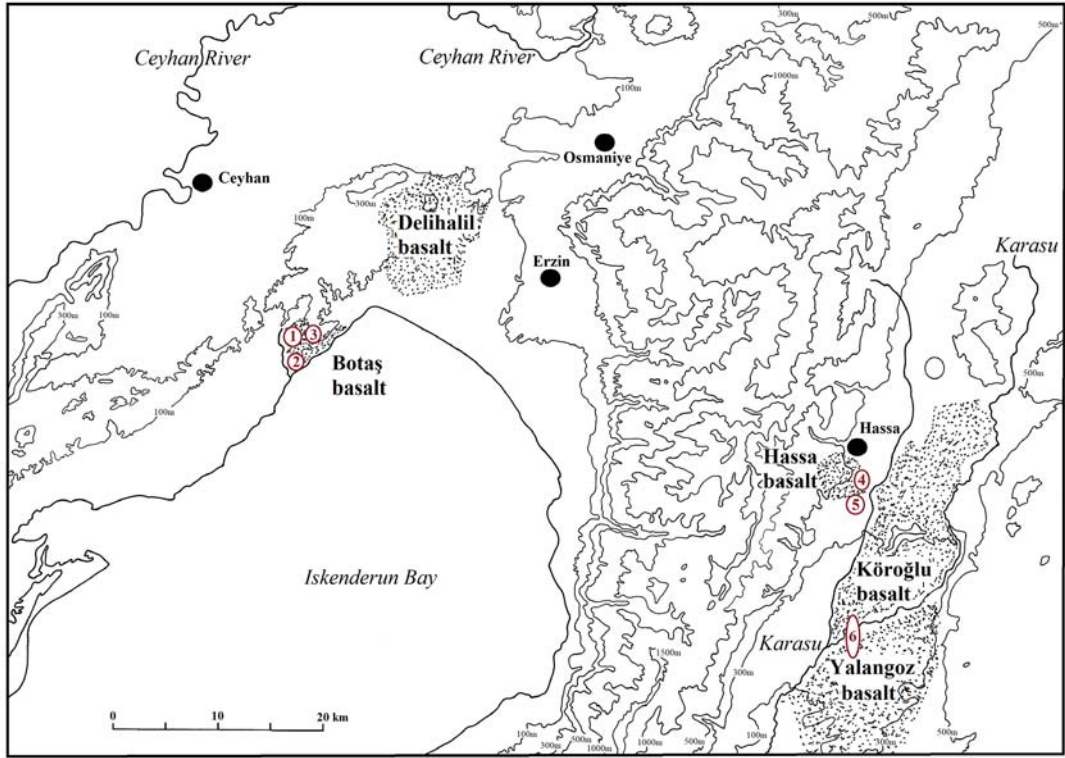


Fig. 1. Topography of the survey region and location of investigated basalts; 1. location of sites C1+C2+C3+C6+C7+C8 on the northwest slope of the Botaş basalt; 2. location of sites C16+C18+C19+C20+C21 on the southwest edge of the Botaş basalt; 3. location of site C17 on the east edge of the Botaş basalt; 4. location of sites H17+H18 on the southeast edge of the Hassa basalt; 5. location of site H27 on the south of the Hassa basalt; 6. location of sites H1, H2, H3, H4, H5, H6, H9, H10, H11, H21, H22, H23, H24, H28 in the informal transect across the southern edge of the Köroğlu basalt and the northern edge of the Yalangoz basalt.

Pleistocene basalt flows which cover large areas of eastern Smooth Cilicia and the Karasu valley. The basalts offer numerous advantages, and some disadvantages. The Pleistocene basalts are relatively stable features in the landscape – over time tectonic activity may shift basalts laterally or vertically but it has not folded them. Large proportions of the basalts have gentle slopes and so are not subject to intense erosion, and yet they are raised above the surrounding landscape and so are not subject to heavy sedimentation. The basalts often act as aquifers for springs which

Kenan Beşaltı (2016) and Gerçek İnanç Candul (2017) for their invaluable help in the conduct of the survey. The project has been funded in part by the Çukurova Üniversitesi Bilimsel Araştırma Projeleri (BAP) program; I thank Çukurova University, the BAP program, and the staff of the BAP office for their help and patience. Christopher Edens, Enes Ergen, Belkıs Nilgün Şahmaran, Semih Cinkara, Gözde Mert Güldalı, Gizem Koçak, Tülin Tümay Çağlayan, and Hayrettin Koral were team members during the two field seasons – without their enthusiastic work under difficult conditions, the survey would not have been possible. Christopher Edens, the project's assistant director, requires additional gratitude for his encouragement and intellectual support for the project, for his invaluable assistance with this article, and his editorial help with the foreign language.



issue from the edge of basalt formations; the springs were potential attractions for prehistoric human activity. Soil development on the basalts tends to be thin, and vegetation cover reduced; these factors promote visibility of chipped stone, but they also reduce the possibility of site stratification. Geological research provides radiometric dates for many of the basalts, and these dates provide *termini post quem* for artifacts found on the basalts. But many of the basalts in the study areas are Middle Pleistocene in age, which greatly reduces the chances of finding Lower Palaeolithic materials on them.<sup>2</sup>

In addition, the survey is examining landscapes around the basalts. Here the problems of erosion and sedimentation are much more severe, but limestone terrain offers the possibilities of caves and rockshelters, of flint sources, and of springs. Like the springs at the edges of basalt formations, all three of these features are spatially fixed points in the calcareous landscape that may attract repeated prehistoric visits (“persistent places”).

#### SURVEY AREAS

In its 2016 and 2017 seasons, the survey focused on two basalts in Ceyhan (Adana) and Erzin (Hatay) in eastern Smooth Cilicia, and on two basalts in Hassa in the Karasu valley (northern Hatay).

Eastern Smooth Cilicia belongs to the middle and lower portions of the Ceyhan drainage. Thus large portions of eastern Smooth Cilicia are covered by deep deposits of recent alluvium (see Isola *et al.* 2017, Rutishauser *et al.* 2017). The river and its floodplain are separated from the sea by a range of low hills that parallels the coast. These hills, which seldom exceed 350m asl in elevation, are sedimentary rocks raised along a tectonic fault. At two places south of these hills extensive basalt flows appear (Fig. 1), and other basalts exist north and east of the hills.

The Botaş basalt<sup>3</sup> forms a domed hill, its summit around 200m above sea level, today directly inland from the Bay of Iskenderun. The hill covers an irregular area about 4km north-south by 6km east-west. Several springs are, or until recently were, active at several points along the eastern and western edges of the hill. The Boyalı Dere catchment and associated farmland border the hill to the west, where is also found the previously recorded mound Boyalı Höyük (Seton-Williams 1954, mound 63). The combination of K-Ar dating and magnetic polarity dates the Botaş basalt to the late Lower Pleistocene, perhaps 800kya (Seyrek *et al.* 2014: 51 summarize the dating evidence).

The Delihalil basalt is a relatively horizontal expanse of very rough basalt around an eruption cone on the north side of the formation. The basalt extends some 14km north-south and 9km east-west. The eruption cone itself rises to nearly 450m above sea level, but most of

<sup>2</sup> Specifically, many basalts in the Karasu valley have dates between 550-250kya, which is coeval with the Late Acheulian and the transition to the Middle Palaeolithic. The same is true of some basalts in eastern Smooth Cilicia, but here more basalts are Lower Pleistocene in age.

<sup>3</sup> The southern terminus of the Baku-Tiflis-Ceyhan petroleum pipeline, operated by Botaş (Boru Hatları ile Petrol Taşıma Anonim Şirketi), sits upon this basalt, and the recent geological literature applies this name to the formation.

the formation is at 150-100m asl descending southward toward the sea. The basalt is extremely broken, with large areas covered by loose rubble (Turkish *leçe*). Notwithstanding this difficult terrain, an important late Roman settlement has been recorded at the eruption cone (Tülek 2014). The Delihalil basalt is not radiometrically dated but it is very young in appearance and it may be as young as the terminal Pleistocene or early Holocene (Seyrek *et al.* 2014: 51). However, more weathered basalts appear around the edges of the *leçe*, and this seemingly older basalt may belong to the Middle Pleistocene.<sup>4</sup> Springs issue from the southern edges of the basalt.

The uplands along the south side of the Ceyhan floodplain around the basalts are composed variously of Paleocene basalt and Eocene-Miocene sedimentary rocks including limestone. Radiolarites are reported from an olistrostome formation (Ünlügenç and Akıncı 2017); although cherty limestones also exist, it seems that the geology of the region does not support sources of knappable flint. The calcareous rocks offer the possibility of caves, and springs emerge from both sides of the ridge at multiple points.

The Karasu valley is a north-south fault-bounded structure between the Amanos on the west, and Kurt Dağ (in Syria) and Kartal Dağı (in Turkey) on the east; the valley is part of the Rift system which extends through the Amik plain to Kahramanmaraş. The Karasu valley rises from 100m asl at the Amik plain to 400m asl to the north. Numerous basalt formations cover large sections of the Karasu valley, over an area 94km long and 12-25km wide between Kırıkhan and Gölbasi (Hatay) in the south to Fevzipaşa (Gaziantep) in the north. The oldest basalts date to the late Pliocene and Early Pleistocene, but most are Middle Pleistocene and some are Upper Pleistocene in date (Çapan *et al.* 1987, Parlak *et al.* 1998, Rojay *et al.* 2001, Seyrek *et al.* 2007, Seyrek *et al.* 2014, Tatar *et al.* 2004, Yurtmen *et al.* 2002). Deep alluvial sediments cover the center of the valley, and large fans have developed along the west side of the valley where streams have deposited sediments from the Amanos Mountains; these Pleistocene and Holocene sediments cover additional areas of Pleistocene basalt (Rojay *et al.* 2001).

During its first two seasons the survey focused on two basalt flows in the Karasu valley (Fig. 1). The Köroğlu basalt covers an area approximately 22km N-S and 8km E-W along the east side of the valley. Several eruption cones appear at the north end of the formation, and the basalt encloses two bedrock (ophiolite) hills. Radiometric dating of the basalt indicates an Upper Pleistocene date.<sup>5</sup> An irregular low escarpment forms the southern edge of the Köroğlu basalt, where many springs emerge from the basalt. Previously reported dolmens and other sites of the Mazmanlı-Çatalyurt area are on the south edge of this basalt (e.g. Yükmén 2000a, 2001, 2003b; Yükmén Edens 2012). Directly south of the Köroğlu basalt, the Karasu and various spring-fed tributaries flow over a basalt terrain in which soils have developed around outcropping rocky interfluvies. This basalt is older than the Köroğlu in appearance, and it seems to belong to the Yalangoz basalt which dates to 350-420kya (Rojay *et al.* 2001).

<sup>4</sup> Dating of basalts at Toprakkale, just 5km northeast of Delihalil, evidence at least four eruptive episodes during the Pleistocene, the oldest around 2.25 mya and the youngest around 0.61mya (Arger *et al.* 2000 table 3; Bağcı *et al.* 2011).

<sup>5</sup> The reported K-Ar date of 50+/- 30kya (Rojay *et al.* 2001) cannot be considered reliable, but together with the fresh appearance of the basalt it places the basalt in the Upper Pleistocene.

The Hassa flow forms a hill, approximately 4km by 2km in area, on the west side the valley directly south of the town of Hassa. The hill rises about 250m from the Hopur Çayı plain in the center of the Karasu valley, and to the west the hill is set against limestone hills that rise another 150-300m. The Hassa basalt is result of an eruptive event radiometrically dated to about 390ka in the Middle Pleistocene (Seyrek *et al.* 2007); another series of three basalts, the youngest dated to about 160kya, abuts the Hassa basalt to the west in the area of Hacılar. Although the Hassa hill is high, large sections of its slopes are fairly gentle, with at least some soil cover that supports bushy vegetation. Deeper soil covers the edges of the basalt to the east and south.

In addition to the basalt formations themselves, the Karasu contains several other geological and geomorphological features which the survey investigated. The geology of the Amanos range north of Belen is extremely varied. Near the project area, surface geology includes basic-ultrabasic rocks, neritic limestones and other carbonate rocks, and clastic rocks of varying date. This geology offers the possibility of caves near the basalts along the west side of the valley. The Amanos geology also offers the possibility of raw material for chipped stone industries. Good quality flint has not been identified here, and it is not likely to exist. But quartzites suitable for knapping occur in formations of orthoquartzite in the Küreci area (Seyrek *et al.* 2014 fig. 10) and this material appears as a minor component in chipped stone scatters. The basalt flows themselves are also potential raw material for chipped stone and also in later periods for grinding stones, monumental art and other uses.

## OVERVIEW OF SURVEY RESULTS

The survey is designed to find, in Glyn Isaac's terms, both patches and scatters of prehistoric artifacts. The first two seasons were exploratory, with the goal simply of assessing the idea that early prehistoric materials are recoverable in basalt landscapes. Moreover, the survey teams were small, each season consisting of only 4-6 people. Therefore a systematic survey strategy was impracticable. Rather, an informal model of expected location of persistent places was used to select survey points. Elements of the model included proximity to water, topographic highs and breaks of slope, caves and rock shelters, and proximity to raw materials.

Out of bureaucratic requirement, site numbers were assigned to artifact scatters as well as to more visible features in the landscape; site number prefixes indicate the district in which a site is located (thus C(eyhan), H(assa) and E(rzin)). But in fact prehistoric sites, in the sense of a concentration of artifacts with determinable limits, are rare. Rather, chipped stone appears as a discontinuous scatter that only occasionally forms a "site".<sup>6</sup> The chipped stone scatters accompany other kinds of artifacts and features which, all taken together, reflect a long-term palimpsest of activity in the basaltic landscape. The following four examples illustrate this landscape palimpsest on the basalts of eastern Smooth Cilicia and northern Hatay.

<sup>6</sup> In general, the densest scatters of chipped stone fall at the lower end of the average densities (expressed as pieces of chipped stone per km<sup>2</sup>) found in various African surveys (see Foley and Lahr 2015: 3) and in most basaltic areas the scatters are significantly less dense. Away from the basalts, the lithic scatters become much thinner and widely discontinuous as a result of erosion and sedimentation, and less visible due to vegetation.

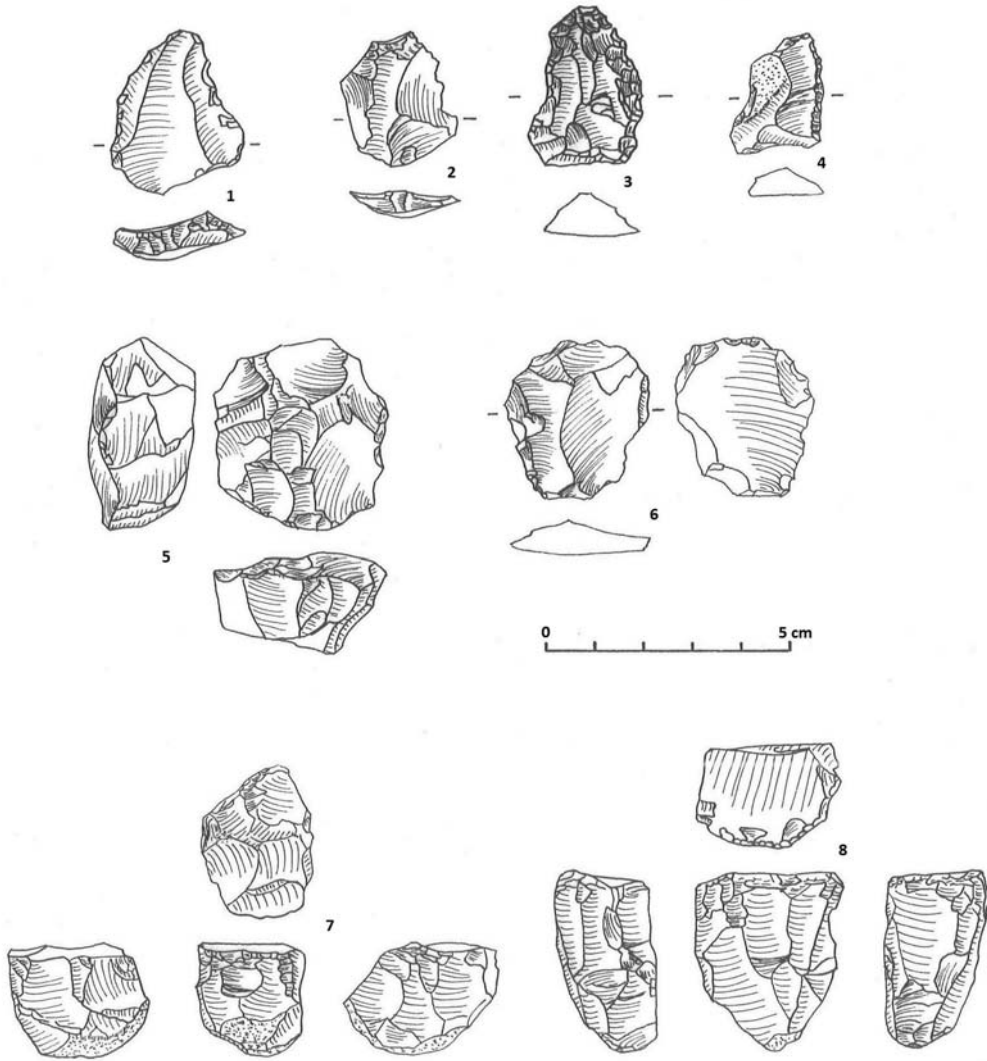


Fig. 2. Possibly Palaeolithic chipped stone:

1. Levallois point (H17); 2. Levallois flake (H21); 3. side scraper (H17); 4. patinated retouched flake (C21W); 5. Levallois core (C6); 6. Levallois flake (C21); 7-8. flake cores (C6.14); all flint.

On the west side of the Botaş basalt hill, the survey found within a 500m by 400m area (Fig. 1.1):

- three groups of dolmens of probable Late Chalcolithic-Early Bronze date (C2, C6);
- heavily eroded agricultural terraces of uncertain date (C2+C6);
- architectural dressed stone along with roof tiles, probable belonging to a Late Roman farmstead (C8);
- a concentration of medieval pottery, possibly an encampment (C3);
- an arc of stone blocks, probably a sub-modern animal pen (C7);
- an intermittent scatter of chipped stone (C1+C2+C3+C6) which includes:
  - a Levallois core, probably Middle Palaeolithic (Fig. 2.5);
  - a group of probable Middle Epipalaeolithic bladelets (Fig. 3.8-12);
  - the stem of a Neolithic point (Fig. 9.15);
  - flint and obsidian bladelets and blades, technologically and typologically Late Neolithic-Early Bronze Age, which are most common in the area of the agricultural terraces (Fig. 11.1-7, 9, 13);
  - retouched flakes and flake cores of uncertain date (Fig. 2.7-8, Fig. 11.8, 10-11, 14);
- an irregular scatter of pottery, mostly Late Roman and medieval.

A second group of agricultural terraces of more recent appearance lies about 400m southeast of this area, and additional groups of dolmens are 1km further south on the west side of the Botaş hill. Boyalı Höyük (Late Chalcolithic-Byzantine; Seton-Williams 1954, Steadman 1994) is 1.6km southwest of this area, and the Neolithic site C17 (Fig. 1.3; presented below) is 1.9km to the east.

Along a spur of basalt at the southwest edge of the Botaş basalt, running a distance of 1.9km southward toward the sea (Fig. 1.2), the survey found:

- Epipalaeolithic and late prehistoric chipped stone, dense Hellenistic pottery, and bedrock cupmarks on a flat-topped hill (C16B) within the ridge (Fig. 3.4-6, 13; Fig. 10.1-7);
- a scatter of chipped stone (C16A+C18+C19+C21) along the top and sides of the basalt ridge both north and south of C16B (Fig. 3.14; Fig. 9.17; Fig. 10.8-11);
- the small fragment of a polished serpentine ax of late prehistoric date (C21);
- cup marks in basalt bedrock at several additional locations (C19, C21);
- a dense concentration of roof tiles along with some pottery and glass (C20), probably an early Byzantine farmstead.

Today the southern end of the basalt spur is only 150m from the shoreline, and a similar topography existed during the past 5000 years. But 15 thousand years ago (Middle Epipalaeolithic) the coastline was about 60km distant, and 8 thousand years ago (Pottery Neolithic) it was still 3km away.



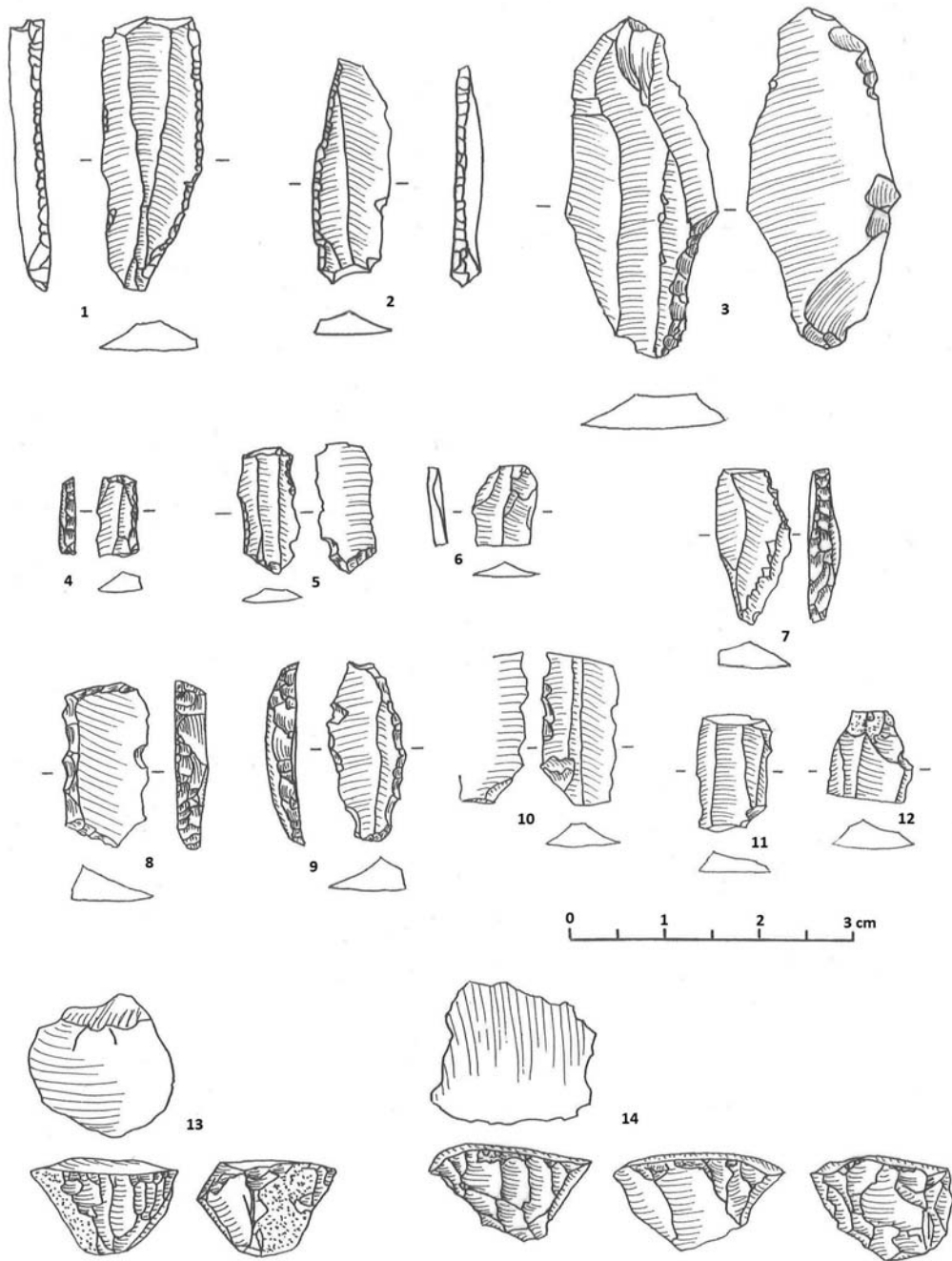


Fig. 3. Epipalaeolithic chipped stone:  
 1-2. arched backed bladelets (H24); 3. microburin (H24); 4. microlithic rectangle-trapeze (C16A); 5. truncated bladelet (C16A); 6. proximal bladelet (C16A); 7. backed bladelet (E1); 8. microlithic rectangle-trapeze (C6.10); 9. arched backed bladelet (C6.10); 10-12. bladelets (C6.10); 13. bladelet core (C16B); 14. bladelet core (C21); all flint.

In the Karasu valley, over an area approximately 800m by 200m on the southeast side of the Hassa basalt hill (Fig. 1.4), the survey found:

- a dense scatter of chipped stone in an area of agricultural terraces and field walls (H17), the scatter consisting mostly of flakes but also including some blades, glossed blades, a side scraper, and a Levallois point (Fig. 2.1, 3; Fig. 7.16);
- a concentration (H18) of Neolithic chipped stone (Fig. 7.1-10);
- a light scatter of chipped stone elsewhere on the hill slope;
- dilapidated agricultural terraces and field walls of uncertain date (H17);
- rectilinear stone architecture of sub-recent date (H18A);
- cup marks in outcropping basalt (H18A).

The important Aceramic Neolithic site H27 (discussed below) lies in farmland at the edge of the Hassa hill (Fig. 1.5), about 600m southwest of this area.

In a 3.6km long but intermittent survey transect, from the southern end of the Köroğlu basalt near Mazmanlı southward across two tributaries to the Karasu and the Karasu itself over the northern end of the Yalangoz basalt to Meccobası (a neighborhood of Camuzkışlası; Fig. 1.6), the survey found:

- a very thin and irregular scatter of chipped stone near sediment-filled depressions within the Köroğlu leçe (H10);
- a dense cluster of Epipalaeolithic chipped stone (H24) within a thin scatter of chipped stone along the south edge of the Köroğlu basalt (Fig. 3.1-3);
- a thin and irregular scatter of chipped stone with several denser clusters (H2, H4A, H21, H28) across the Yalangoz basalt (Fig. 7.11-15, 17-19);
- a group of well-preserved dolmens at the south edge of the Köroğlu basalt (H24), and heavily dilapidated dolmens on a low rise in an interfluvium on the Yalangoz basalt (H11), of probable EBA date;
- stone architecture within the Köroğlu leçe (H9) and on interfluvium rises in the Yalangoz basalt of the Karasu floodzone (H1, H5), of subrecent date;<sup>7</sup>
- clusters of cup marks on interfluviums on the Yalangoz basalt (H3, H4, H11), of uncertain date;
- several mounds near the Karasu (H6, H22, H23), where the identifiable surface pottery is mostly Hellenistic-medieval periods.

The Delihalil basalt in eastern Smooth Cilicia is very young and has, for the most part, an extremely rough, broken surface. The survey spent only a very little effort here, finding only a little recent pottery; Palaeolithic chipped stone is very unlikely to exist here. However, more weathered basalt lies at the southern edges of the Delihalil formation, and here remains of several (sub-recent) stone structures lie within a very thin scatter of chipped stone which includes

<sup>7</sup> Rectilinear stone architecture is commonly visible on satellite images within the Köroğlu leçe – a partial count on GoogleEarth indicates at least 65 locations. Smaller amounts of similar architecture appear in the basaltic Karasu interfluviums, on the Hassa basalt hill, and in the Delihalil leçe in Adana. Local informants identify this architecture as seasonal Yörük settlements. The survey visited several of these places but found little indication of date.

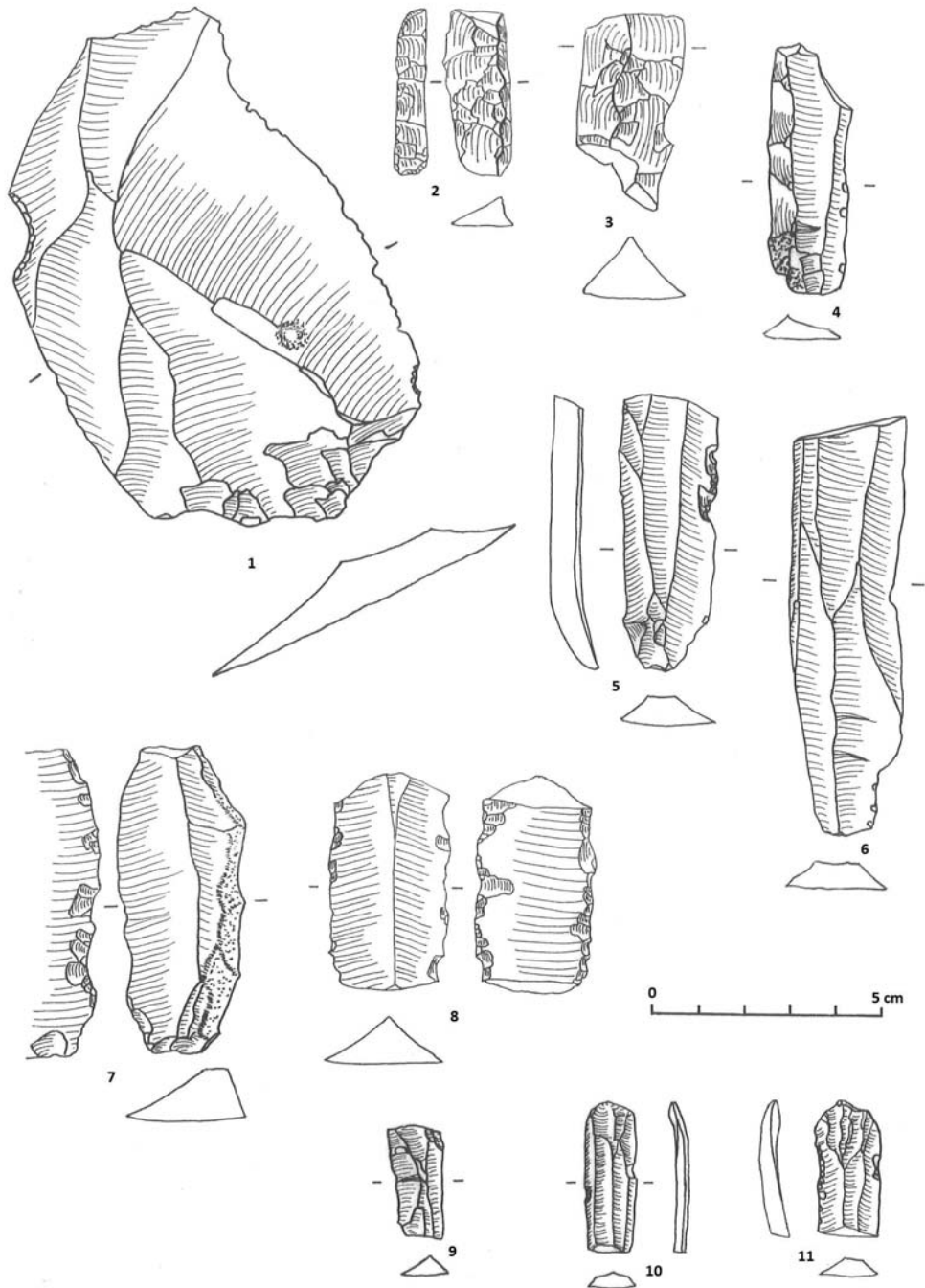


Fig. 4. LPPNB chipped stone from H27:

1. large notched flake (core preparation?); 2-3. crested blades; 4. débordante blade; 5. distal blade from single platform core; 6. distal blade from bidirectional core; 7. medial cortical blade ("naturally backed knife"); 8. medial blade; 9. medial bidirectional bladelet; 10-11. proximal bladelets; 9-11 are obsidian, the remainder flint.

retouched flint blades, a backed bladelet (Fig. 3.7), and an obsidian bladelet. Similar chipped stone occurs at other locations at the southwest edge of the basalt.

Away from the basalts, alluvial and colluvial sedimentation plus thicker vegetation greatly reduces visibility of chipped stone and other artifacts. In these areas the survey focused on limestone terrain where flint sources and caves may exist. The survey did not identify sources of flint, chert or radiolarite, and a review of the geological literature suggests that “knappable” flint may not exist on the west side of the Karasu or in Smooth Cilicia. In the coastal hills of eastern Smooth Cilicia the survey did identify two small caves, where associated artifacts suggest use from late prehistoric through medieval periods. Caves are both more common and often larger along the western edges of the Karasu valley, but again no definite Palaeolithic use of the caves has been identified.

The survey recorded other kinds of features related to rural activities in limestone areas. The remains of wine presses cut into limestone outcrops were recorded at several places in Smooth Cilicia (C10, C24); these are not dated, but they most likely belong to Roman-Byzantine period. Cup marks in limestone were found at numerous places in Smooth Cilicia (C11, C13, C14, C23, C24) and also in the Karasu valley (H20). Traces of undated stone quarrying were found in limestone at C9 and C24. Tombs cut into limestone were seen at various points along the west side of the Karasu valley (H12, H13, H14, H15, H19); these typically have an unelaborated entrance into a roughly oval chamber with three arcosolia. The rock-cut tombs found in Smooth Cilicia are more varied in form, which include chambers with a dromos entrance (C14, C22, C26), chambers with a shaft entrance (C9, C25, C26, probably C11 and C24), and loculi tombs (C25). Most of these structures belong to the classical tradition.

The survey did not target mounds, but it did record them when encountered. The survey identified four mounds in the basaltic Karasu floodzone, south of the Koroğlu leçe. One of the mounds has Late Chalcolithic-Early Bronze occupation, but the others date mainly to the Hellenistic through medieval periods. These mounds are additional to two mounds found in earlier survey (Yükmen 2001, Yükmen Edens 2012), and other mounds almost certainly exist in this basalt landscape.<sup>8</sup> In Smooth Cilicia, the survey visited Boyalı Höyük (finding EBA plain simple ware and a Canaanean blade); the mound sits upon a spur of basalt at the edge of the Botaş basalt. The survey also found a hill-top site (C14) in the Kurtkulağı area; although deposition is evidently thin over much of this site, surface artifacts include a Neolithic point and a Neolithic-Chalcolithic macehead as well as later pottery, stone-cut tombs and cup marks.

Before considering more closely the early prehistoric chipped stone, three classes of recurrent finds of later date deserve additional comment.

On both sides of the Amanos, flint blades and bladelets are common elements of chipped stone scatters. These flint blades and bladelets are often retouched and sometimes backed, and many are glossed. Obsidian bladelet segments occur less commonly, and these tend to be unmodified. Backed glossed flakes also occasionally appear in the scatters. These

<sup>8</sup> Mound surveys in Hatay report some sites along the west side of the Karasu valley (Braidwood 1937, Alkım 1969, Dodd *et al.* 2012), but no mound survey has been carried out along the Karasu proper in eastern portions of the valley. Braidwood (1937: 38) supposed that agriculture is impossible, and therefore mounded settlements do not exist in this basaltic area. This view clearly is not correct for the Karasu floodzone south and east of the Koroğlu basalt.

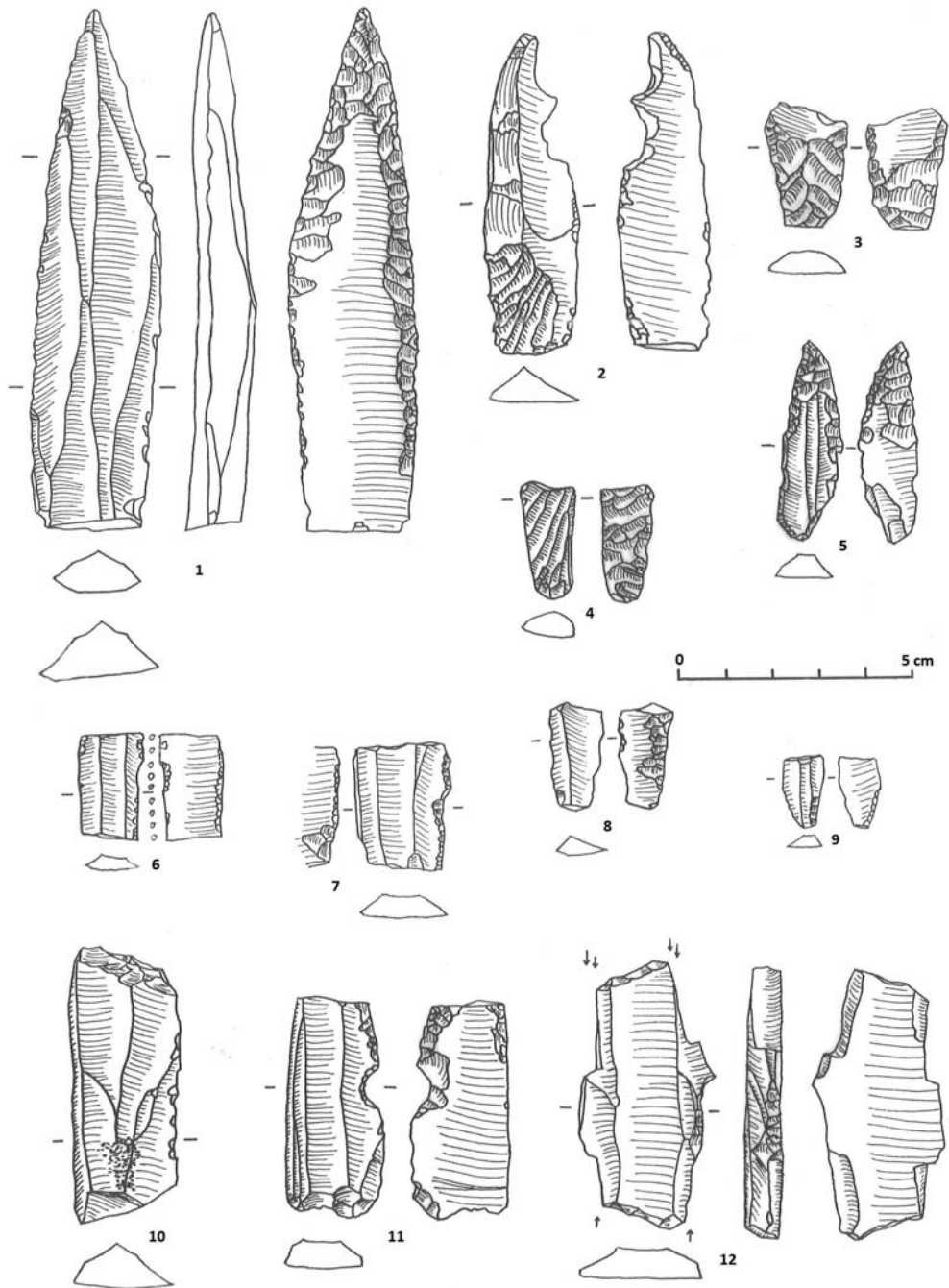


Fig. 5. LPPNB chipped stone from H27:

1. distal point on bidirectional blade; 2. medial point on débordante blade; 3-4. proximal points; 5. distal point; 6. glossed blade; 7. edge retouched blade; 8-9. edge retouched bladelets; 10. truncated bidirectional blade; 11. notched bidirectional blade; 12. multiple angle burin on bidirectional blade;

5 and 9 are obsidian, the remainder flint.



characteristics suggest that much of the chipped stone scatters are the result of agricultural activities, notably harvest and crop processing. The typological and technological character of the blades points to the late Neolithic through Early Bronze Age as possible dates for these activities. The common occurrence of blade segments in the abandoned terraces of the Botaş and Hassa basalt hills opens the possibility that agricultural terracing was in place by the Early Bronze Age if not earlier.<sup>9</sup>

Cupmarks in basalt or limestone bedrock are a commonly occurring feature, recorded at six locations in the Karasu valley and at eight locations in Smooth Cilicia. In some of these locations one or only several cupmarks appear, but in other locations groups of cupmarks occur. At H3 at least 14 cupmarks appear over an 80 × 30m area on a low, flat basalt rise; at H4 nine cupmarks occur across a 30 × 20m section of a basalt hill. The recorded cupmarks are typically circular in plan, 23-27cm in diameter at the top, and 12-15cm deep with a rounded bottom. Three of the cupmarks at H3 are surrounded by flattened bedrock and one cupmark is at the center of a circular groove; the rock around other cupmarks here and elsewhere is not shaped. Such features are often assumed to be classical period or later in date, and to reflect small-scale olive oil production. But other functions and dates cannot be excluded. One cupmark at H4 is oval, and resembles Chalcolithic bedrock features described for the southern Levant (van den Brink 2008). But in general the cupmarks cannot be dated by form or associated artifacts (surface finds at H3, for example, include both a glossed pressure blade and medieval glazed pottery).

In earlier surveys groups of dolmens were identified at multiple points along the southern edge of the Köroğlu basalt (Yükmen 2000a, 2000b, 2001; Yükmen Edens 2012). The survey found more dolmens in the same topography, and additional dolmens in the basaltic interfluvies of the Karasu floodzone. The survey in Smooth Cilicia recorded four groups of dolmens on the western slope of the Botaş hill; this result is the first time dolmens have been documented west of the Amanos mountains. Little pottery or other artifacts is evident inside or immediately around the dolmens, leaving them undated as is usual with dolmens in southeastern Anatolia (Yükmen 2003a). However, in form these structures are directly related to dolmens of the southern Levant, which are now dated primarily to the EB I (i.e. Late Chalcolithic in Anatolian terms; Yükmen Edens 2012, Polcaro *et al.* 2014, Fraser 2015).

## EARLY PREHISTORY

As the above four examples of survey results make apparent, basalt landscapes in eastern Smooth Cilicia and in the Karasu valley hold a quasi-continuous scatter of chipped stone, within which are occasional patches that might be called sites. Much of the chipped stone is clearly late prehistoric (Pottery Neolithic-Early Bronze Age) in date, or even later. These materials are related to agriculture and other rural activities. But some individual pieces and some patches (“sites”) in the scatter belong – with greater or lesser certainty – to earlier periods.

<sup>9</sup> Late Roman pottery is also common across the Botaş hill, so the terraces may have been used over a very long period.

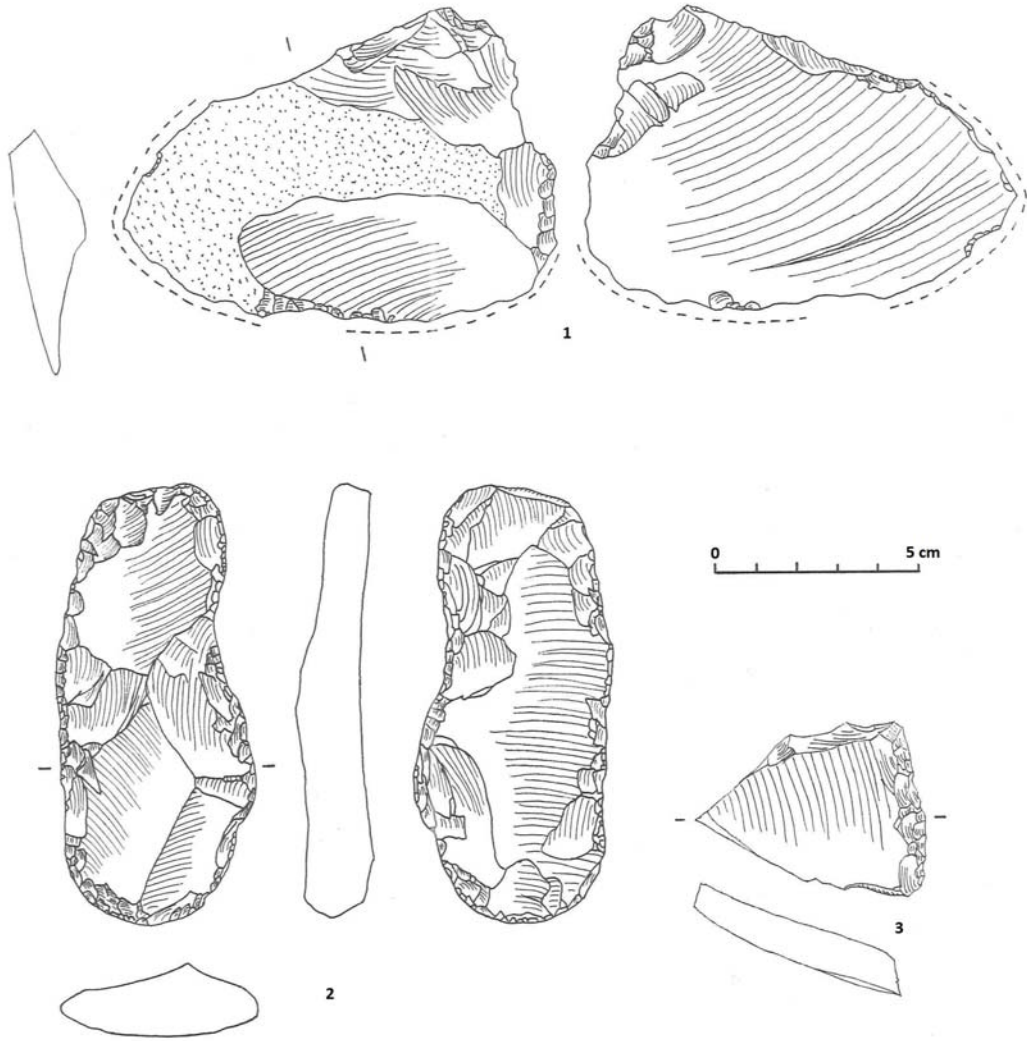


Fig. 6. LPPNB chipped stone from H27:

1. large cortical flake with thinned bulb and rounded distal edge; 2. bifacially retouched and battered "hoe" on a thick flake; 3. broken scraper on large flake; all flint.

## Palaeolithic

Among the survey finds, typologically or technologically Palaeolithic chipped stone is rare. More specifically, the survey encountered no definite Lower Palaeolithic or Upper Palaeolithic material. The survey did identify a small amount of probable Middle Palaeolithic chipped stone. In the Karasu valley two flint Levallois products were found within chipped stone scatters of generally later character. A point with converging dorsal preparation and faceted striking platform (Fig. 2.1) appears at H17, on the southeast edge of the Hassa basalt hill; the point is significantly more weathered than the other flint flakes in the H17 scatter. Also in the H17 scatter, a side scraper made by semi-abrupt scalar retouch on a thick flake (Fig. 2.3) is typologically consistent with a Middle Palaeolithic assignment, but this piece is not as heavily weathered as the point. Elsewhere in the valley, a flake with radial dorsal scars and faceted striking platform (Fig. 2.2) is among the chipped stone in the scatter at H21, near the Karasu south of the Koroğlu basalt. This flake is also more weathered than other pieces in the same scatter.

In Smooth Cilicia, a small Levallois core made on aphanitic basalt (Fig. 2.5) appeared downslope from the agricultural terraces on the west side of the Botaş hill, and a flake with radial dorsal scars and a faceted striking platform (Fig. 2.6) was found at C21. Both of these pieces present double patination. In addition, a cortical flake with semi-abrupt retouch along the right edge is deeply patinated (Fig. 2.4), which is an unusual condition for chipped stone on the Botaş hill.

Some or all of these pieces probably are Middle Palaeolithic in date. Mousterian industries of the Levant typically have a high Levallois index, and Levallois points of the kind found at site H17 are characteristic of the Late Mousterian (see Shea 2003 for an overview).

## Epipalaeolithic

Epipalaeolithic finds are somewhat more common both in the Karasu valley and in Smooth Cilicia. In Hassa, H24 is a cluster of dolmens plus chipped stone on a low bluff of basalt that overlooks the Kafir Suyu at the south end of the Koroğlu basalt. The chipped stone at H24 was concentrated in several patches within a wider thin scatter.<sup>10</sup> In one patch, approximately 50 very small unretouched pieces lay within a 1 × 3 m area. Another patch contained 40–50 pieces scattered over a 6 × 6 m area. The latter included two arched backed/curved pointed bladelets and a microburin on a narrow blade (Fig. 3.1–3). The arched backed bladelets are similar to backed bladelets recently reported from Wadi Kharar 16K in the middle Euphrates (Kadowaki and Nishiaki 2016 fig. 5) in an assemblage dominated by scalene triangles. The latter industry corresponds approximately to the *Kébarien géométrique, faciès à grands triangles scalènes* which is common in the semi-arid zone southeast of Aleppo (Coqueugniot 2011). However, scalene triangles were not found at H24, leaving uncertain this identity here.<sup>11</sup> In-

<sup>10</sup> At some time after summer 2016, a large portion of H24 was bulldozed, seemingly in preparation for planting trees. This action completely destroyed the concentrations of chipped stone and at least three dolmens.

<sup>11</sup> Coqueugniot states (2011: 25) that this industry is “caractérisé par l’utilisation intensive de la technique du microburin pour tronçonner les lames étroites (et plus rarement des lamelles).” The two arched backed pieces at H24 are 8 mm and 11 mm wide and so bladelets; on the other hand, the microburin is 17 mm wide and so a narrow

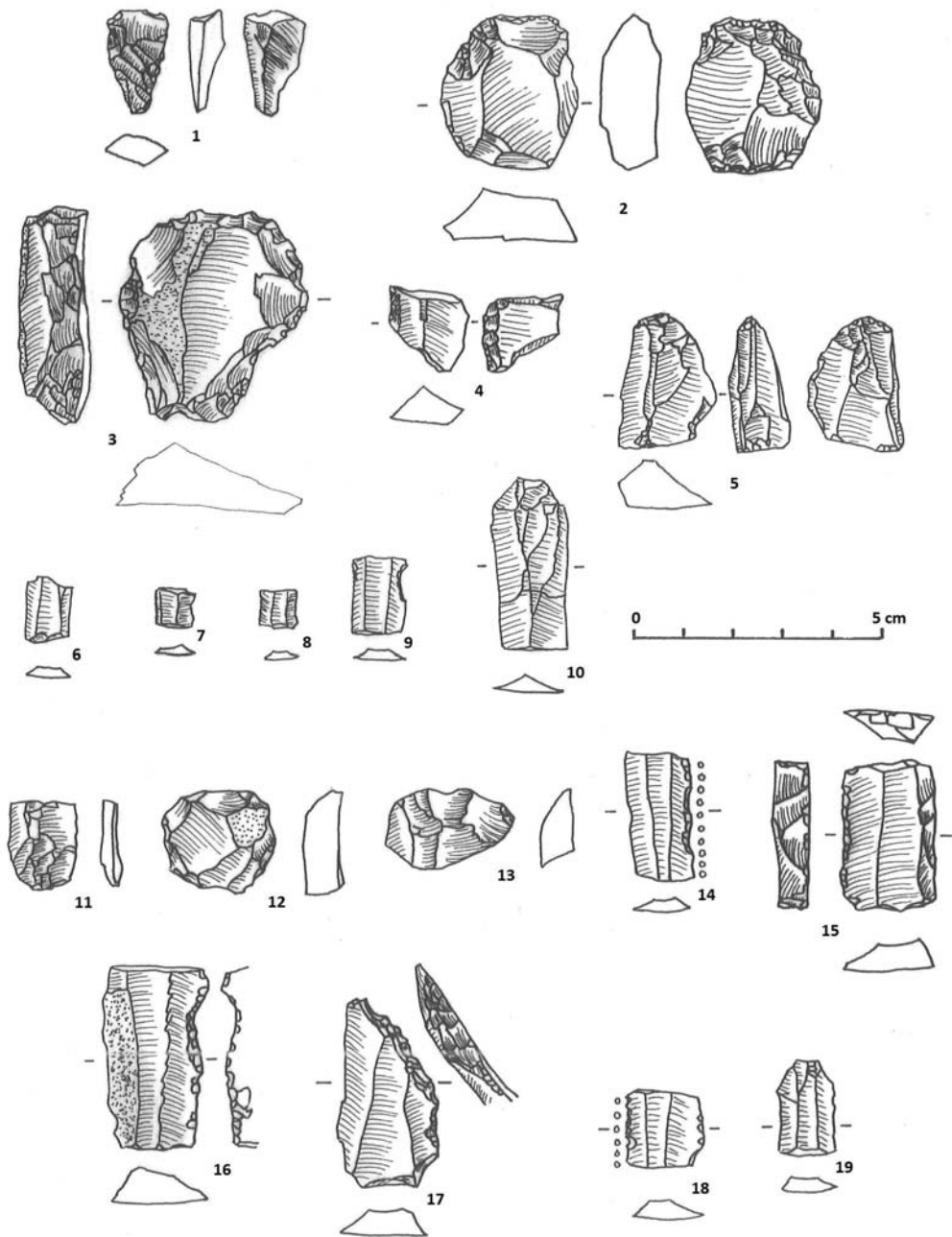


Fig. 7. Neolithic and late prehistoric chipped stone from the Karasu valley:  
 1. point stem with ventral burinating blow (H18); 2. *pièce esquillée* (H18); 3. scraper on thick flake (H18);  
 4. alternate retouched blade (H18); 5. “wedge” on a thick flake (H18); 6-9. medial bladelets (H18);  
 10. proximal blade (H18); 11. proximal blade (H4A); 12-13. scraper on flake (H4A); 14. glossed blade  
 (H3); 15. backed blade (H5); 16. glossed notched cortical blade (H17); 17. obliquely truncated blade  
 (H21W); 18. glossed medial blade (H21); 19. proximal blade (H21);  
 6-9 are obsidian, the remainder flint.

deed, arched backed bladelets are not in themselves a good “chronotype,” and they persist into the Aceramic Neolithic period (e.g. at Aşıklı Höyük; Balkan-Atlı 1994: fig 2). The same chronological uncertainty applies to a backed bladelet (Fig. 3.7) found on the more weathered basalt at the south edge of the Delihalil formation, in Smooth Cilicia.

In Smooth Cilicia, the survey found geometric microliths at two locations on the west side of the Botaş basalt. C16B is a flat-topped hill within a ridge of basalt overlooking the Boyalı Dere plain. A dense cluster of artifacts on the hilltop attests to activities here from prehistoric through Hellenistic times. The chipped stone at C16B (piece-plotted with a handheld GPS) includes a high proportion of obsidian (approximately 40%), which often take the form of bladelets. The common pressure obsidian and flint bladelets strongly suggest late Aceramic Neolithic-Chalcolithic occupation(s), and a crescent-shaped backed flake with gloss (Fig. 10.6) is typologically Late Neolithic (belonging to the group 9 sickle elements of Maeda *et al.* 2016). But a trapeze-rectangle made on a flint bladelet (Fig. 3.4) is more likely Middle Epipalaeolithic in date. This geometric is 13mm long and 6mm wide; these dimensions fall at the low end of the size range for trapeze-rectangles at Geometric Kebaran sites in the Levant. A single platform bladelet core (Fig. 3.13) found at the western edge of C16B, within 20m of the trapeze-rectangle, may belong to the same period. This core is formed on the proximal end of a thick cortical flake, and is capable of producing bladelets 15mm long. A similar core on a thick flake (Fig. 3.14) was found further south along the same basalt ridge (C21), about 400m away. Some of the flint bladelets (Fig. 3.5-6) found on the C16B hilltop and the adjacent slope may have a similar date.

Another trapeze-rectangle (Fig. 3.8) was found on the northwest side of the Botaş hill, on a level area near the dolmens and agricultural terraces of C6. This geometric is 24mm long and 12mm wide. This width is greater than is seen at many Geometric Kebaran sites in the Levant, but it does fall at the high end of the width range found at some sites such as Kharaneh IV (Muheisen and Wada 1995), Umm el-Tlel (Alcalde *et al.* 2013: 148) and Wadi Kharar 16 AT (Kadowaki and Nishiaki 2016 fig. 7). This trapeze-rectangle is one of seven pieces of chipped flint within a 30m by 10m area. The other pieces include an arched backed bladelet (Fig. 3.9), three unretouched bladelets (Fig. 3.10-12), and two chunks, all of flint.

### Late Pre-Pottery Neolithic-Early Pottery Neolithic

The survey found Neolithic materials both in Hatay and in Smooth Cilicia. In Hatay, H27 is a dense scatter of chipped stone plus some ground stone which covers an oval area about 150m by 90m at the southern edge of the Hassa basalt hill. Here 1.0-1.5m of soil covers the basalt, and the area is today under cultivation. A short lava tube collapsed at one end forms a sort of cave near the center of the artifact scatter. The chipped stone assemblage is mainly flint, with obsidian appearing in much smaller amounts. Blades of both materials are common. Flint blades were made from both single platform cores and bidirectional cores (Fig. 4.5-6); several crested blades (Fig. 4.2-4) were seen but no cores. Obsidian blades are narrow (technically

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blade. Similarly wide microburins on narrow blades are observable elsewhere in northern Syria, e.g. at Nahr el-Homr (Roodenberg 1979 fig. 3.18).



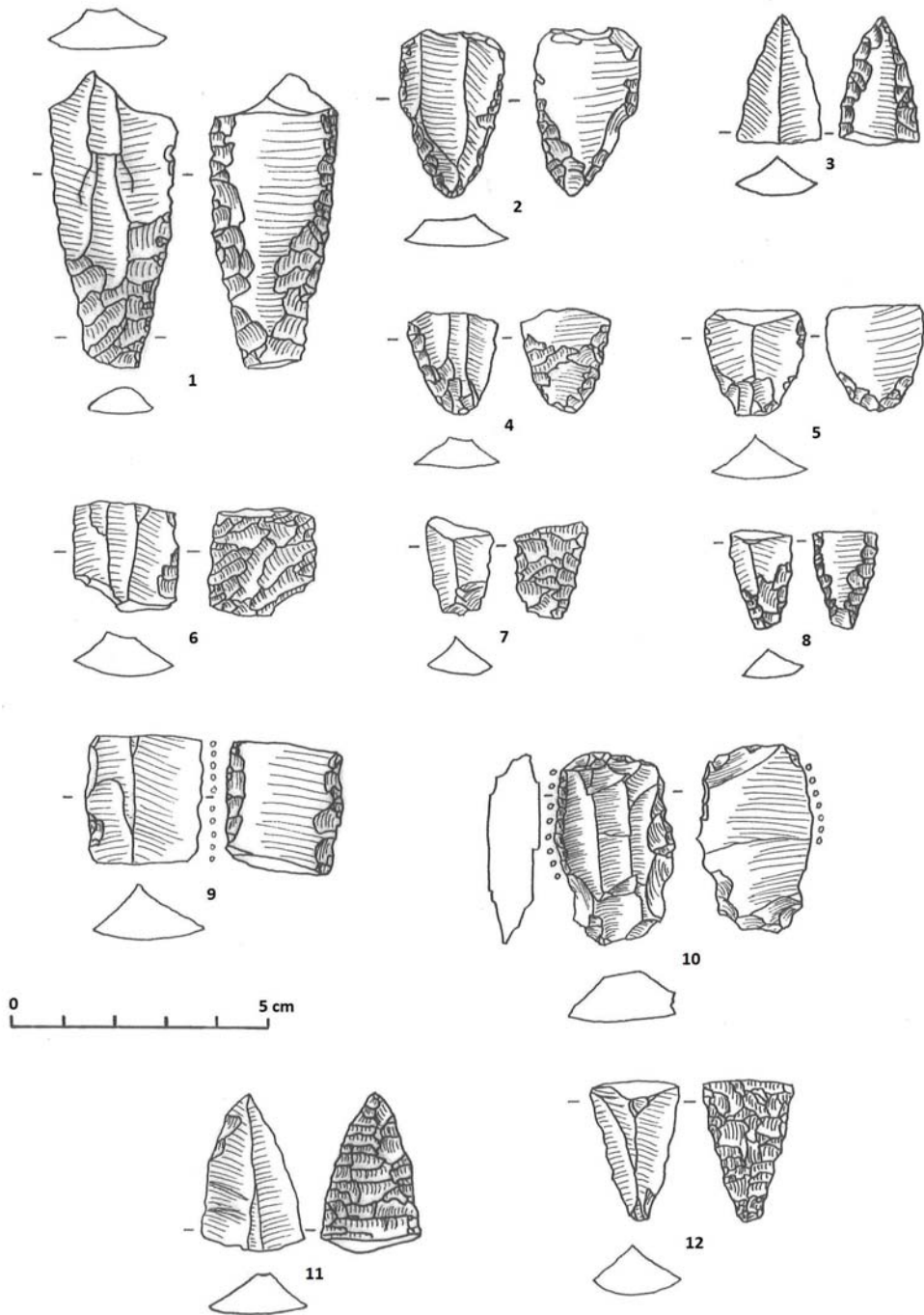


Fig. 8. Neolithic chipped stone from C17:  
 1-8. points on blades (C17A); 9-10. glossed medial blades (recycled point  
 fragments; C17A); 11-12. points on blades (C17B); all flint.

many are bladelets), and most probably were made by a pressure technique (Fig. 4.9-11); no obsidian cores or production debris were identified. Typologically, the chipped stone is varied, and includes the following:

- broken points which, when identifiable, belong to the Amuq type (Fig. 5.1-5); bases are most common, and these are shaped by parallel pressure flaking (“Abu Ghosh” retouch) or by less regular retouch; the tip of one point is a bipolar blade over 11cm long; another is made on a *lame débordante*;
- sections of blades, or broken blades, with gloss (Fig. 5.6);
- lightly retouched blades (Fig. 5.7-9);
- a multiple angle burin on a double truncated blade (Fig. 5.12);
- notched blades and flakes (Figs. 4.1, 5.11);
- a “naturally backed” (cortical) blade (Fig. 4.7);
- scrapers made on flakes (Fig. 6.3);
- a large flake with a very worn, rounded edge, perhaps a hoe (Fig. 6.1);
- a thick bifacially retouched flake with a heavily battered end, perhaps an ax (Fig. 6.2).

In addition to the chipped stone, numerous grinding stones of vesicular basalt and a large grinding basin of aphanitic basalt are present at the site. Although a few sherds are present on the surface of the site, these are recent in character and no prehistoric pottery was seen.

These characteristics strongly suggest a Late PPNB date for H27. The bidirectional blade core technique is strongly indicative but not decisive – although bidirectional blade production was already declining during the LPPNB (Borrell and Khalaily 2016), the technique did continue well into the Pottery Neolithic. For example, bidirectional blades continued to be produced at Shir in northwest Syria (Rokitta-Krumnow 2013), and bidirectional blades may be present among the Amuq A-B chipped stone at Judeidah (Arimura 2003: 162, commenting on Crowfoot-Payne 1960). However, in its technological and typological characteristics the chipped stone at H27 closely parallels the LPPNB assemblages at Tell Ain Dara III in the upper Afrin drainage and at Tell Ain el-Kerkh in the Rouj basin (Arimura 2003, Arimura and Suleiman 2015). In the apparent absence of prehistoric pottery, H27 should be given a LPPNB date.

At the southeast edge of the Hassa basalt the cut for an agricultural road left chipped stone scattered along a 30m distance (H18). Twenty seven pieces were found on this road cut, of which 22 are flint, four are obsidian, and one is quartz. Flakes outnumber blades – including retouched pieces, 8 are blades and 19 are flakes. The obsidian occurs only as sections of bladelets (Fig. 7.6-9), and the blades all seem to come from single-platform cores (Fig. 7.10). The retouched items include the stem of a point, a scraper on a thick flake, a blade with semi-abrupt retouch, a *pièce esquillée*, and a small ax-like bifacially retouched flake (Fig. 7.1-5). The point stem in cross-section is rounded on one face by sub-parallel (“Abu Ghosh”) retouch and given a ‘v’-profile by a longitudinal burinating blow on the other face. This technique is reminiscent of the “Palmyra retouch” commonly found in the middle Euphrates and central Syria, where it was applied to off-set bidirectional blades when making points and other tools (Borrell

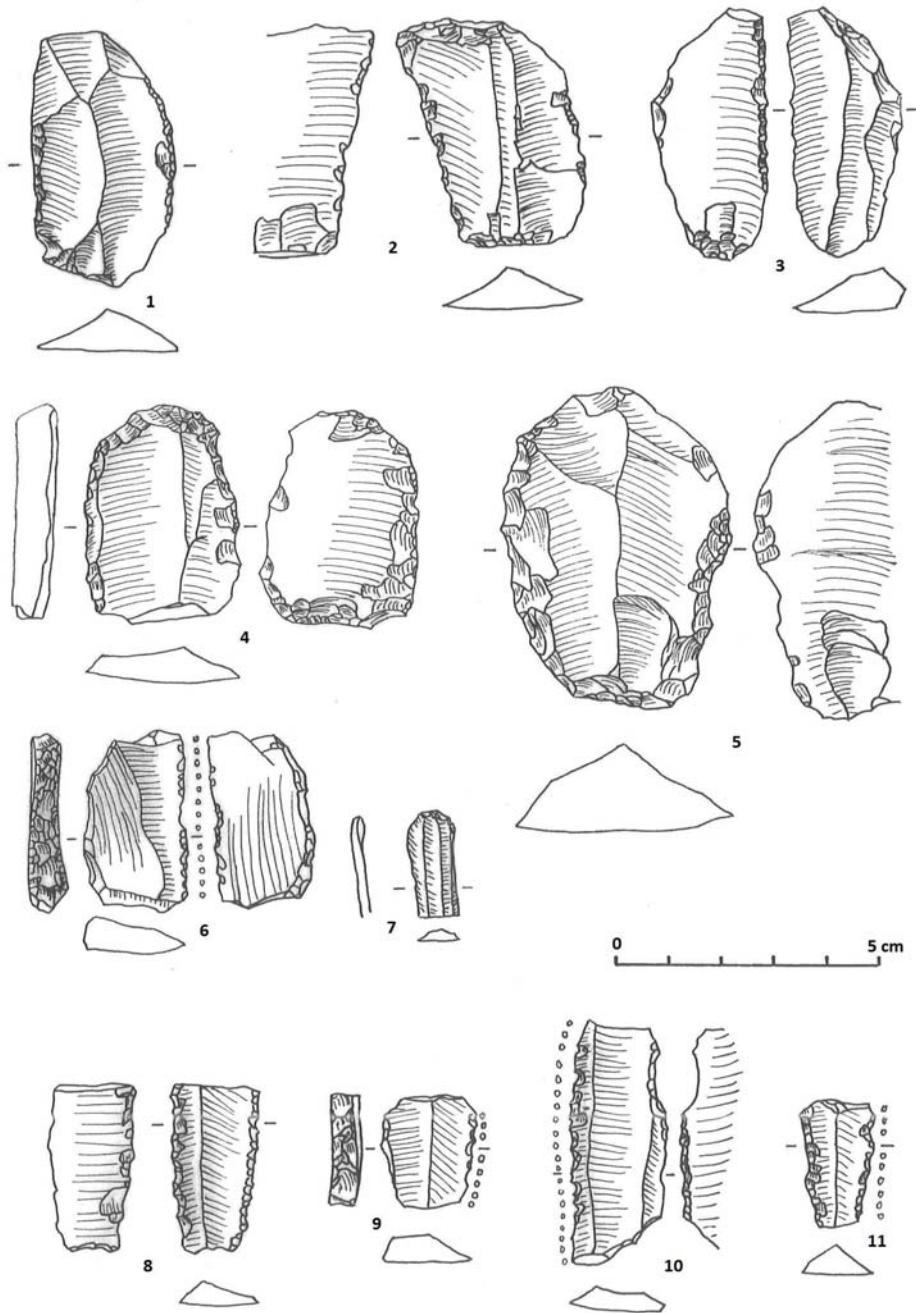


Fig. 9. Neolithic chipped stone from C17 and elsewhere in Ceyhan:  
 1-7. glossed blades (C17A); 8. glossed flake (C17A); 9. double backed blade (C17A); 10. medial bladelet (C17A); 11. truncated and retouched bladelet (C17A); 12. distal bladelet (C17B); 13. retouched bladelet (possibly a point stem; C17B); 14. obsidian flake (C17B); 15. Byblos point stem (C6); 16. Amuq point stem (C14); 17. untyped point stem (C16A);  
 10-14 are obsidian, the remainder flint.

2011, Borrell and Molist 2007, Schmidt and Beile-Bohn 1996). The off-set bidirectional blade technique flourished 7800-7100 BC in the middle Euphrates and portions of desert central Syria (see most recently Borrell 2017; cf. the “techno-complexe à lames torsées et burins plans” of Coqueugniot 2011 in the region southeast of Aleppo). Arimura (2013) makes a strong case that the Byblos points with Palmyra retouch on these kinds of blades in Late PPNB assemblages at Ain el-Kerkh were imports, and the same may be true in Hassa.<sup>12</sup> In the absence of associated pottery, the chipped stone at H18 is tentatively assigned a Late PPNB date.

In Smooth Cilicia the survey found a dense scatter of Neolithic chipped stone at C17, at the eastern edge of the Botaş basalt hill. C17.A occupies a triangular ridge of basalt which overlooks rolling farmland in three directions. At least one terrace wall and several sherds of Late Roman pottery appear on the ridge, in addition to the chipped stone. The chipped stone is densest along the north side of the ridge, and similar material extends northward down the slope below the ridge (C17.B). The survey systematically mapped by hand-held GPS 211 pieces of chipped stone across approximately 0.9 ha at C17.A. The chipped stone included 145 pieces of flint, 59 pieces of obsidian, and seven pieces of other materials. Nearly half (103 of 211) of the pieces are blades or bladelets, and nearly a third of these are modified by retouch. The most common modification is retouch of blades to make points which typologically belong to the Amuq series (Fig. 8). Many of these points are made by extensive retouch on the ventral face of the blade, leaving the dorsal face largely or entirely unretouched. The same technique occurs on Amuq points found at C17.B.

Ten blades sections and one flake are glossed. The glossed blades are variable in degree and kind of modification:

- two blade sections are not retouched (Fig. 9.7);
- two glossed pieces are bidirectional blades, probably recycled portions of broken points (Fig. 8.9-10); on one of these the gloss covers semi-abrupt retouch along one edge, and on the other flat inverse retouch largely removes the gloss on the ventral face (resharpening);
- the proximal section of a seemingly bidirectional blade has gloss covering bifacial retouch (Fig. 9.1);
- a blade segment is truncated at each end and the gloss covers semi-abrupt denticulating normal retouch (Fig. 9.5);
- a blade segment is truncated at one end, the gloss covering semi-abrupt normal retouch along one edge; this blade section was subsequently recycled as a notch formed by inverse retouch on the glossed edge (Fig. 9.6);
- a snapped blade section has normal denticulating retouch covered by oblique gloss along one edge (Fig. 9.2);
- two narrow blade sections have gloss covering semi-abrupt inverse retouch (Fig. 9.3-4); in one case the retouch and gloss occur on both edges.

<sup>12</sup> The long distal point fragment at H27 (Fig. 5.1) is made on a longitudinally twisted blade which may also be the product of the off-set bidirectional technique. In this case, however, the proximal end of the blade is missing so the presence of Palmyra retouch cannot be confirmed.

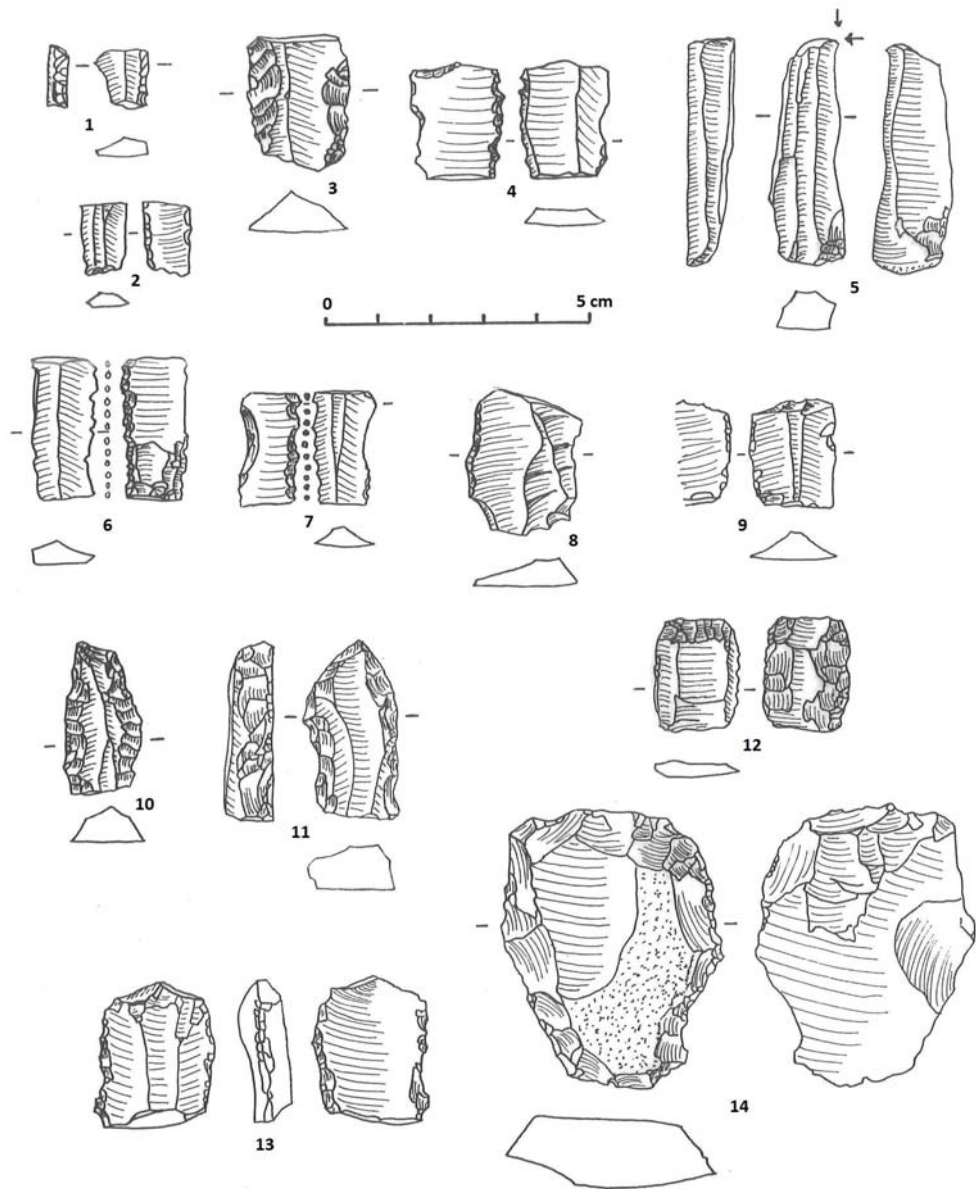


Fig. 10. Late prehistoric chipped stone from C16B and vicinity:

1. flake with edge retouch (C16B); 2. distally backed flake (C16B); 3. obliquely truncated blade with ventral retouch and incipient gloss (C16B); 4. end scraper on flake (C16B); 5. side scraper on flake (C16B); 6. glossed crescent backed flake (C16B); 7. bladelet (C16B); 8. truncated and retouched blade with incipient gloss (C16A); 9. glossed backed flake (C16A); 10. glossed truncated and retouched blade (C18); 11. glossed retouched blade (C18); 7 is obsidian, the remainder flint.



On the flake, gloss covers normal semi-abrupt retouch associated with the gloss (Fig. 9.8). A truncated bladelet with inverse retouch does not exhibit gloss but formally belongs to the same series. A double backed bladelet may be a broken drill (Fig. 9. 9). The obsidian occurs primarily as bladelets, the morphology of which indicates production by a pressure technique (Fig. 9.10-14); only a small proportion of the obsidian is retouched.

The chipped stone recorded at C17.A, and on the adjacent slope (C17.B) includes little evidence for primary reduction on the site. The chipped stone includes no definite cores (several small chunks of flint might be fragments of cores), core preparation flakes, crested blades, platform rejuvenation flakes, etc. More broadly, the relatively low proportion of unretouched and retouched flakes recorded at C17.A (61 of 211 pieces, 29%) contrasts strongly with assemblages such as Hayaz Höyük where primary core reduction is strongly represented (65% flakes among the debitage; Roodenberg 1989 table 1). It is therefore possible that flint blades as well as obsidian bladelets were brought to the site already made. The regular recycling of retouched tools that is evident among the C17.A glossed blades underscores the relative scarcity of raw material, and reinforces the likelihood of imported blades. Moreover, at least one of the flint flakes is deeply patinated, unlike others in the assemblage, giving it the appearance of greater age; this flake may have been collected from earlier materials on the Botaş hill.

The Amuq points made on bidirectional blades suggest that C17.A probably dates to some time during the Late PPNB through early Pottery Neolithic (Amuq A-B) range. As mentioned above bidirectional blade techniques survived into Pottery Neolithic times in north-western Syria and probably also in Hatay, and Pottery Neolithic points made on bidirectional obsidian blades existed in Smooth Cilicia, for example at Yumuktepe (Garstang 1953 fig. 5 bottom center).<sup>13</sup> The apparent absence of Neolithic pottery at C17.A does favor a Late PPNB date. But pottery typically is rare in excavated initial Pottery Neolithic assemblages, so an early 7<sup>th</sup> millennium date remains possible.

Isolated Neolithic points were found at several other locations around the Botaş hill. The stem of a shattered Byblos point (Fig. 9.15) was found at the bottom of the slope with agricultural terracing on the northwest side of the hill. Fragments of Amuq points were found in fields below the ridge with Epipalaeolithic remains at C16A (Fig. 9.17); with these points were glossed truncated and retouched blades, glossed backed blade, and glossed truncated denticulated blades (Fig. 10.8-11). These glossed blades are probably related to agricultural activities during the Late Neolithic and Chalcolithic periods. Another broken Amuq point stem (Fig. 9.16) was found on the limestone hilltop site at C14 north of the Botaş basalt, along with backed blades and a broken stone macehead.<sup>14</sup> Just as at C17, these Amuq points show emphasis on shaping by ventral retouch, which seems to be a technological characteristic of eastern Smooth Cilicia during the late PPNB and PN periods.

<sup>13</sup> The recent excavations at Yumuktepe report a small number of bidirectional blades in the predominantly obsidian Neolithic assemblage, and suggest that the blades were made off-site (Altınbilek-Algül 2011: 17). Balcı (2013) summarizes evidence for Pottery Neolithic production of bidirectional blades in Cappadocia.

<sup>14</sup> Just as in the southern Levant (Rosenberg 2010), stone maceheads appear in southeast Anatolia and northwest Syria long before the Late Chalcolithic and Early Bronze Age (e.g. Braidwood and Braidwood 1960, Campbell and Healey 2011, Hole 1959); they also figure in Neolithic assemblages of central Anatolia (e.g. Tsoraki 2016).

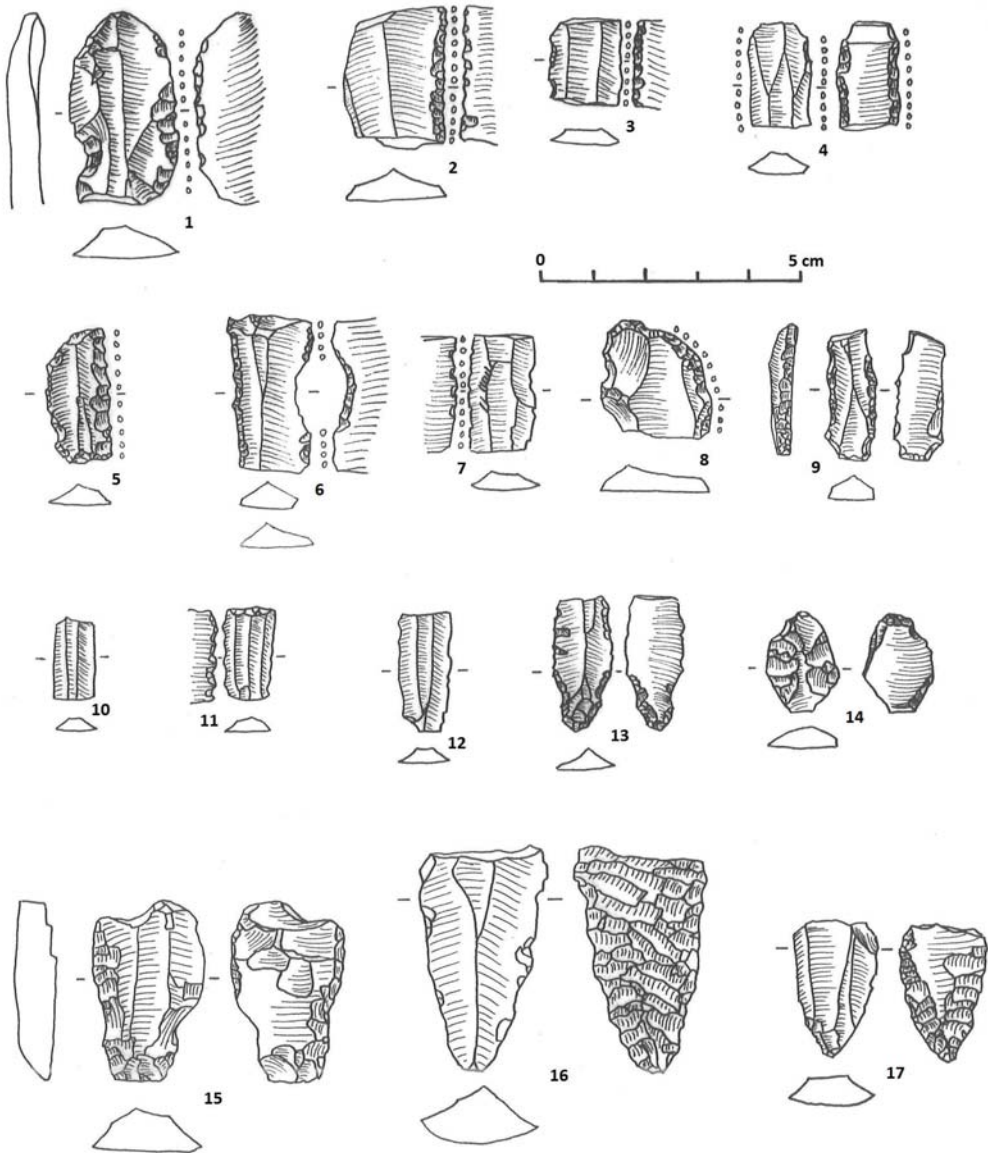


Fig. 11. Late prehistoric chipped stone from northwest Botaş basalt hill:

1. backed bladelet (C2); 2. truncated retouched bladelet (C6.27); 3. blade with invasive normal retouch (C2); 4. truncated denticulated blade (C6.1); 5. burin on thick blade (C2); 6-7. glossed ventral retouched blade (C2); 8. edge retouched flake (C6.27); 9. truncated blade (C2); 10-11. thick blade with converging abrupt retouch or backing (C6.14); 12. bifacially retouched blade (C3); 13. proximal Canaanian blade (C3); 14. scraper on cortical flake (C3); 12 is obsidian, the remainder flint.

## DISCUSSION

The scarcity of Palaeolithic finds in the Karasu valley and eastern Smooth Cilicia seems to be real, and calls for comment. Several explanations are possible. One possibility is that the Botaş and Hassa basalts are too young to have formed a soil cover that supported vegetation during the Middle Pleistocene. In that event, the lack of Lower Palaeolithic finds would not be surprising, but the rarity of Middle Palaeolithic remains unexplained. Another possibility is that the basalts never supported, even under full interglacial conditions, vegetation sufficiently dense to attract game or human foraging. In that event, human use of the basalt landscapes would be minimal. In the eastern Mediterranean today basalt terrains does support significantly less dense vegetation than limestone (e.g. Noy-Meir and Oron 2001); nevertheless edible plants such as large seed grasses (e.g. wild wheat) and geophytes do thrive in attractive density on basalts. A third possibility is that the basalts are so far from raw materials sources that distance inhibited site formation.

Numerous studies address the complex interplay of factors – mobility and foraging patterns, raw material procurement, reduction strategy, tool curation, recycling, discard – that underlie formation of a prehistoric chipped stone assemblage. Distance from raw material is an important factor. Generally speaking, greater distance from raw material sources encourages selection of more “efficient” reduction strategies (e.g. Levallois), more intense curation of tools, and more recycling of previously discarded tools. In the Sakçagözü region, Lower and Middle Palaeolithic chipped stone is very common near sources of flint, but finds become very rare 4-5km distant from the flint sources (Garrard *et al.* 2004). The same effect seems to exist in the Karasu valley and in eastern Smooth Cilicia. In both regions, the known or possible flint sources nearest the basalt survey areas are 30-40km distant.<sup>15</sup> In other words, intense curation of chipped stone tools may explain both the scarcity of Palaeolithic materials on the basalts, and their relatively high rate of double patination (recycling).

Epipalaeolithic materials have not been reported previously either from the Karasu valley or from eastern Smooth Cilicia, and sites of this period from surrounding areas are uncommon.<sup>16</sup> More generally, few Epipalaeolithic sites are known in Anatolia (summarized by Kartal 2009), and very few have been researched in detail. As a result, the typological, technological and chronological variability of the Anatolian Epipalaeolithic remains poorly understood, and the southern Levant tends to be the default reference – for better or for worse – both for “cultural” identification and for chronology.

<sup>15</sup> The reported flint sources nearest Hassa section of the Karasu valley are in Eocene limestones of the Kartal range about 50km to the northeast (Garrard *et al.* 1996), the upper Afrin drainage about 40m to the east (Nishiaki *et al.* 2017), and northern Yayladağı about 80km to the south (Kuhn 2004, Baykara 2013); a similar Eocene limestone exists within the Amanos about 35km southwest of the Hassa basalt. The situation in eastern Smooth Cilicia is much less clear. The coastal hills contain sedimentary formations with some radiolarite (Ünlügenç and Akıncı 2017) but apparently not knappable flint. Chert is reported in gravels associated with the Ceyhan river 35-40km from the Botaş hill (Seyrek *et al.* 2008), but this material has not been examined for “knappability.”

<sup>16</sup> A Kebaran-related industry exists at Üçağızlı cave but is not yet fully described (see <http://hatayup.web.arizona.edu/epipaleolithic.htm>), and Late Epipalaeolithic industries are known from Dederiyeh cave in Syria (“northern Natufian”; Nishiaki *et al.* 2017) and Direkli cave in Kahramanmaraş (Natufian-related; Ereğ 2009).

Microlithic trapeze-rectangles are not common in reported Anatolian assemblages, but they are typical in Middle Epipalaeolithic/Geometric Kebaran industries of the Levant. Research in the northern Levant has documented a significant increase both in number and in size of sites during the Middle Epipalaeolithic (Cauvin *et al.* 1997; see also Kadowaki and Nishiaki 2016). For example, survey in the semi-arid landscape southeast of Aleppo recorded three Kebaran, eleven Geometric Kebaran and three Natufian sites (Geyer and Coqueugniot 2013, Coqueugniot 2011). The survey evidence presented here suggests that Smooth Cilicia was related technologically to the north Levant, and followed the same trends of population and land use during the Epipalaeolithic.

As already indicated, arched backed bladelets are not a good chronotype. A typological ambiguity may also exist, since arched backed bladelets as a formal type grade into microlithic lunates. A recent discussion of late Epipalaeolithic Dederiyeh refers to arched backed bladelets as “large lunate-like bladelets” which may help understand the origin of the “northern Natufian” (Nishiaki *et al.* 2017: 20). Discussions of lunate-rich assemblages in Anatolia typically refer to the Natufian complex. But such assemblages seem to appear in Anatolia somewhat before the Early Natufian (e.g. at Pınarbaşı in Konya and Öküzini in Antalya; Baird *et al.* 2013, Kartal 2009)<sup>17</sup> and they continue somewhat after the Late Natufian (e.g. Direkli cave in Kahramanmaraş; Erek 2009, Arbuckle and Erek 2012). As already mentioned, lunates, arched backed bladelets and other microliths continue, albeit in significantly reduced numbers, in 9<sup>th</sup>-8<sup>th</sup> millennium BC assemblages in central Anatolia (e.g. Pınarbaşı, Boncuklu, Aşıklı Höyük). These considerations leave undated the arched backed bladelets from the Karasu and from eastern Smooth Cilicia – they might fall anywhere during the Epipalaeolithic and into the Aceramic Neolithic.

Until the excavations at Tell Ain el-Kerkh found Early PPNB levels (Tsuneki *et al.* 2006), the Mediterranean zone of the northern Levant was thought to have remained outside the Neolithic core until the Late PPNB (Cauvin *et al.* 1997: 64). Even now, recorded LPPNB sites in the northwest Levant are few: in addition to Ras Shamra, LPPNB materials are known from the Sakçegözü plain (Garrard *et al.* 1996, Garrard *et al.* 2004), the upper Afrin drainage (Arimura and Suleiman 2015), and the middle Orontes together with the Rouj basin (Iwasaki *et al.* 1995, Arimura 2003). Braidwood’s Amuq sequence starts with the Dark Faced Burnished horizon of the Pottery Neolithic, and no Aceramic Neolithic<sup>18</sup> or pre-Amuq A Pottery Neolithic sites have yet been found in the Amik plain (Casana and Wilkinson 2005: 35; cf. Gerritsen *et al.* 2008) or elsewhere in Hatay. So finding LPPNB sites in the Karasu valley is not surprising, but its regional circumstances make H27 particularly important. As already noted, technological and typological characteristics of the H27 chipped stone fit comfortably with previously reported assemblages of the northwest Levant.

<sup>17</sup> These early assemblages differ from Natufian in several ways. At Öküzini triangles and trapezes appear in high proportions (each 10-30% of the microlithics) alongside lunates according to the later Epipalaeolithic samples in Kartal 1999, and the technological character of lunates at Pınarbaşı contrast with Early Natufian (Baird *et al.* 2013: 185).

<sup>18</sup> As several scholars (e.g. Casana and Wilkinson 2005: 35; Arimura 2007b: 149) have noted, Braidwood did find several Aswad points (Early PPNB) in later, mixed contexts at Tell Dhahab.

Similarly, Pottery Neolithic sites have been identified in Smooth Cilicia and the excavation programs at Yumuktepe-Mersin have supplied details about local Pottery Neolithic communities (Caneva and Jean 2016, Altınbilek-Algül 2011). However, no Aceramic Neolithic sites have been reported for Smooth Cilicia. The introduction of food production to Smooth Cilicia was probably somewhat delayed relative to Hatay, and hunting-gathering communities probably persisted longer into the Holocene. But food production in Smooth Cilicia surely began before 7000 BC, and Aceramic Neolithic settlements surely existed in the region, although not necessarily sharing the material culture patterns of the northwest Levant. In the present state of ignorance, the expected characteristics of the chipped stone assemblages left by these first farmers remain unclear – do they resemble the PPNB of the northern Levant, or do they incorporate elements of the still poorly defined local Epipalaeolithic tradition? The apparently LPPBB or early Pottery Neolithic materials found at C17 and elsewhere around the Botaş basalt only begin to answer this important question.

Just as in earlier periods, the raw material for Neolithic chipped stone assemblages was brought from distance sources, which now include obsidian presumably from Cappadocia. In western Smooth Cilicia, the “Early Neolithic” (i.e. early Pottery Neolithic) assemblage at Yumuktepe contains up to 90% obsidian (Altınbilek-Algül 2011), whereas at C17.A the proportion is little more than 25%; impressionistically, the proportion of obsidian at H27 is probably under 10%, i.e. somewhat less than the excavated samples at Ain Dara III and Tell Ain el-Kerkh (Arimura 2007a tab. 3.147, Arimura and Suleiman 2015), but significantly higher than the proportions found in many Euphrates sites such as Hayaz (2.5%, LPPNB), Kumartepe (1.5%, early Pottery Neolithic), and Mezraa Teleilat (under 5%), where good flint sources are comparatively abundant (Roodenberg 1989, Coşkunsu 2007). While it is still impossible to separate chronological from geographical dimensions in the survey region, the fall-off is significant. As Cauvin and Chataigner (1998: 337) have commented, obsidian is not an independent variable but must be considered in comparison with locally available flint and other raw materials. Obsidian and flint are both imports to eastern Smooth Cilicia and the Karasu valley, but sources of high quality flint are closer to hand than are the Cappadocian obsidian sources. The Neolithic communities at sites like C17 and H27 drew on multiple regional exchange networks for provisioning lithic raw materials, and as obsidian became – geographically or chronologically – less important, the distribution systems for flint become more important. The common recycling of tools evident in the C17.A assemblage (broken points as sickle elements, sickle elements as notches) is a consequence of relative scarcity of raw materials and provisioning from distance sources. The important subject of exchange networks for flint products, evident at C17 and H27, needs more systematic attention across the region.



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## FROM IKKUWANIYA TO URA

### A reassessment of the geography of the Hūlaya River Land according to the Hittite archaeological and philological evidence

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#### *Abstract*

*Through the combined study of the Hittite cuneiform texts and the archaeological data, we try to draw a map of the Hūlaya river land, a Luwian-speaking area of the Hittite kingdom. The philological inquiry focuses on two diplomatic treaties that were established by the Great King of Hatti and the king of Tarhuntašša, whose territory was closely connected to the Hūlaya river land. The archaeological inquiry summarizes several survey campaigns performed in the region, including the surveys that we performed in the vicinity of Fasillar (province of Beyşehir) between 2012 and 2015. Our methodology is based on reconstructing the ancient roads of the region, in order to reconstitute the urban network of the Hittite period.*

#### INTRODUCTION

The Hūlaya river land is part of the Hittite Lower Land,<sup>1</sup> a Luwian-speaking area included in the land of Hatti since the Ancient Kingdom according to the Telepinu Edict (Hoffmann 1984: 12-15, § 3-4). The Hūlaya river land remained within the land of Hatti until Hattušili III's reign. This is illustrated, for example, by the presence of the Hūlaya river on the list of divine recipients of Muwatalli II's prayer (Singer 1996: 176-7). During Hattušili III's reign, the land of the Hūlaya river becomes part of a new kingdom, the kingdom of Tarhuntašša which Hattušili gives to his nephew Ulmi-Tešub/Kuruntiya (see for example Jasink 2001: 52). Tarhuntašša had been the ephemeral capital city of Kuruntiya's father Muwatalli II before Kuruntiya's own brother, Urhi-Tešub/Muršili III, relocated the capital at Hattuša.

The extent of the Hūlaya river land is still debated today. Some authors (Garstang and Gurney 1959: 69-70; Forlanini 1998a: 225) believe that the southern limit of this land was the Hūlaya river itself (most probably the Çarşamba çayı as already suggested by Garstang 1944: 37). As for the northern extent, the bed of the Sarıöz river from the Aladağ to the Beyşehir lake<sup>2</sup> would mark the natural frontier according to Forlanini (1998a: 225). Toward the east,

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<sup>1</sup> We would like to thank M. Forlanini who accepted to proofread this article. The latter was written independently from Forlanini's then forthcoming article (now published as Forlanini 2017).

<sup>2</sup> Barjamovic 2011: 370 with fn. 1535 suggests that the Beyşehir lake might "have been a river valley covered with towns and villages in Hittite times." He also writes, "Proof that the lake must have formed late in history was provided by a local fisherman, who took me to a place c. 600 m. south-west of Yılanlı Ada where Roman stone

Forlanini (1988: 150) suggested that the land of the Hūlaya river could have reached the Bataklik gölü, about 23 km east of modern Çumra.

The present article has two main aims: 1) to consolidate the philological and archaeological evidence about the region; 2) to use this unified body of data to verify the various hypotheses about the extent of the Hūlaya river land, and to try to place on the map of the region as many Hittite toponyms as possible. This second task depends on identifications that remain hypothetical in character. The reader should therefore keep in mind that the following reconstitution is merely an attempt to visualize the Hūlaya river land as vividly as possible.

#### THE HŪLAYA RIVER LAND IN THE TWO TARHUNTAŠŠA TREATIES

The Hūlaya river land is mainly known through the two Tarhuntašša treaties, namely the Ulmi-Tešub<sup>3</sup> treaty (CTH 106.I.1: Otten 1988 – henceforth UT) and the Bronze Tablet (CTH 106.II.2: van den Hout 1995 – henceforth BT). According to these two texts, the Hūlaya river land clearly constitutes an important part of the kingdom of Tarhuntašša itself. Each section of the texts contains the following phraseology: “Toward the city/mountain of ... his frontier (is) ...”,<sup>4</sup> where “his” most probably means “Ulmi-Tešub/Kuruntiya’s”. Therefore, the whole frontier delineation is described from the point of view of the king of Tarhuntašša.<sup>5</sup> The two treaties will be studied together so that any change in the frontiers can be highlighted.<sup>6</sup>

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coffin graves cover the lake floor at a depth of c. 60 cm.” However, the presence of such coffins on the floor does not necessarily suggest that the lake did not exist, only that its water level was lower. Many thanks to Michele Massa, who kindly discussed this issue with us at length and gave us this argument. We quote his email (dated 29/06/2016): “As for the inexistence of Beyşehir Lake in the Hittite period, his [Barjamovic’s] commentary is in itself quite interesting, but not necessarily true for the Hittite period. All the studies that he mentions do not explicitly say that it did not exist in the LBA, only that at times it may have “collapsed” (drained) and then when the sinkholes clogged again it would have formed again. The presence of mounds inside the lake today, and the Roman coffins, are not in themselves proof that the lake did not exist in those times, just that it was lower. How much lower is disputable. Changing lake levels is also known in the Burdur lake, where for instance Roman water levels were 10 m. higher than today (cf. Tudryn *et al.* 2013: 656-7, fig. 4). The only study done directly on the lake is from van Zeist *et al.* 1975. They obtained a 9 m. long core that formed in wet conditions (i.e. under water), that covered the last 6500 years, and within which there were no obvious breaks in the lake sediment’s deposition (van Zeist *et al.* 1975: 114). This means that, at least where the coring was taken, there had been no interruption in the existence of the lake, for the last 6500 years. The coring was taken from the southern side of the lake (van Zeist *et al.* 1975: 73), farthest from the sinkholes, so it is possible that the lake always existed at least in the last 6500 years, but that its shape considerably changed through time.”

<sup>3</sup> Ulmi-Tešub is another name of Kuruntiya; see Beckman 1996: 102 for previous literature.

<sup>4</sup> On the use of the ablative case to mean “toward”, see Hoffner, Melchert 2008: 266, no. 16.92.

<sup>5</sup> Pace Melchert 2007: 508. Garstang and Gurney 1959: 70 suggested that the place names were seen from the interior of the Hūlaya river land, but the assertion that the Tarhuntašša kingdom as a whole is the reference point seems more likely.

<sup>6</sup> See also Imparati and Pecchioli Daddi 1991 and del Monte 1991-92, who compare the two texts with one another.

## The frontier with Pedašša

Both texts describe first the border between the Hūlaya river and the Pedašša land.

### Section 1

The text states:

“Toward the land of Pedašša, the Mountain Hauwa, the *kantanna*<sup>7</sup> of the city of Zarniya (and) the city of Šanantarwa (are) your frontiers. The *kantanna* of Zarniya (is) in the Hūlaya river land but Šanantarwa (is) in the land of Pedašša.”<sup>8</sup>

If we try to represent this section of the treaties on a map, we would place Šanantarwa on the Pedaššan side of the border and the *kantanna* of Zarniya on the Hūlayan side.

As for the Mountain Hauwa, it probably constitutes the border itself. Indeed, mountains constitute natural borders that can be easily visualized on the landscape.

### Section 2

The next section of the Tarhuntašša treaties varies according to the version. In the UT, we read:

“Toward the frontier (of) the land of Pedašša, the KASKAL.KUR-s (plural) (of) the city of Arimmatta (are) his frontier but Arimmatta (is) in the land of Pedašša.”<sup>9</sup>

For the same section, the BT states:

“Toward the land of Pedašša, the city of Nahhanta was formerly his frontier. My father drew the frontier in for him: in the treaty [tab]let of my father, the KASKAL.KUR (no plural marker) (of) the city of Arimmatta (was) made (his) frontier. Now, I, My Sun, have reestablished the previous frontier: toward the land of Pedašša (and) toward the frontier (of) Arimmatta, the cities of Nahhanta and Hautašša (are) his frontiers but Nahhanta and Hautašša (are) in the Hūlaya river land.”<sup>10</sup>

This section describes three successive phases: 1) the situation before the UT; 2) the change realized by the UT; 3) the restoration of the previous frontier by the BT.

<sup>7</sup> About this word, see below, p. 89 *sub* Zarniya.

<sup>8</sup> UT (KBo 4.10++ Obv. 16'-18'; van den Hout 1995: 24-27) // BT (Bo 86/299 i 18-21; Otten 1988: 10-11): *IŠTU* KUR <sup>URU</sup>Petašša=(t)ta <sup>HUR.SAG</sup>hauwāš : *kantanna* <sup>URU</sup>Zarniyaš <sup>URU</sup>Šanantarwaš ZAG-aš <sup>URU</sup>Zarniyāš=ma=kan : *kantanna* ANA (BT: INA) KUR <sup>17</sup>Hūlaya āššan <sup>URU</sup>Šanantarwaš=ma=kan INA KUR <sup>URU</sup>Petašša āššanza.

<sup>9</sup> UT (KBo 4.10++ Obv. 19'-20'; van den Hout 1995: 26-27): *IŠTU* ZAG KUR <sup>URU</sup>Petašša=ma=(š)š <sup>D</sup>KASKAL. KUR <sup>MEŠ</sup> <sup>URU</sup>Arimmatta ZAG-aš <sup>URU</sup>Arimattaš=ma=kan ANA KUR <sup>URU</sup>Petašša āššanza.

<sup>10</sup> BT (i 22-28; Otten 1988: 10-11): *IŠTU* KUR <sup>URU</sup>Petašša=ma=(š)š <sup>URU</sup>annaz <sup>URU</sup>Nabhantaš ZAG-aš <sup>URU</sup>ēšta nu=(š)š <sup>ABU</sup>=YA ZAG *anda* <sup>URU</sup>huittiat nu=kan ANA [T]U[P]PI RIKILTI ŠA <sup>ABU</sup>=YA <sup>D</sup>KASKAL.KUR <sup>URU</sup>Arimmatta ZAG-aš <sup>URU</sup>iyanza kinun=a=(š)š <sup>D</sup>UTU-ŠI <sup>URU</sup>annallin ZAG EGIR-pa <sup>URU</sup>tehbun nu=(š)š <sup>URU</sup>IŠTU KUR <sup>URU</sup>Petašša <sup>URU</sup>IŠTU ZAG <sup>URU</sup>Arimmatta <sup>URU</sup>Nabhantaš <sup>URU</sup>Hautaššaš=(š)a ZAG-aš <sup>URU</sup>Nabhantaš=ma=kan <sup>URU</sup>Hautaššaš=(š)a INA KUR

<sup>17</sup> *Hūlaya āššanteš*.

The expression “the treaty [tab]let of my father” from the BT seems to refer to the UT itself. Although the BT still considers the immediate surroundings of Arimmatta as a frontier (“the frontier (of) Arimmatta”), it specifies that now the two cities of Nahhanta and Hautašša belong to the Hūlaya river land, which means that the territory of the Hūlaya river land is slightly extended toward Pedašša. This is what we deduce from the use of *anda huittiya*- “to pull inward” combined with the enclitic personal pronoun in the dative case *-ši* “for him” (i.e. for Hattušili III in this particular passage) in the description of the border change during Hattušili III’s reign: Hattušili III had moved the frontier farther north toward Pedašša and thus included Nahhanta in the land of Pedašša, but Tudhaliya IV restores the old frontier: by returning Nahhanta to the Hūlaya river land (and the kingdom of Tarhuntašša) he thus moves the frontier back toward the south.

Note that, in this section, the UT mentions KASKAL.KUR in the plural, whereas the corresponding passage in the BT does not. Dinçol *et al.* suggested that the KASKAL.KUR of Arimmatta was the cultic basin of Eflatunpınar (Dinçol *et al.* 2000: 13; see also Yakar 2014: 504), thus extrapolating further Börker-Klähn’s hypothetical equation KASKAL.KUR = cultic basin (Börker-Klähn 1993: 353).<sup>11</sup> However, these authors omitted the plural marker used in the UT. This plural marker renders the whole identification implausible, as there is only one basin at Eflatunpınar. Therefore, we believe that the identification between Arimmatta and Eflatunpınar should be rejected unless new data tell us otherwise.

If the Tarhuntašša treaties describe the borders of the Hūlaya river land clockwise, as has been generally understood since Gurney and Garstang (1959: 74), we have to locate Section 2 (surroundings of Arimmatta) east of Section 1 (surroundings of Mount Hauwa).

## The frontier with Mount Hutnuwanta

### Section 3

The next section is centered on Mount Hutnuwanta/Huwatnuwanta:

“Toward the mountain Hutnuwanta, the *hallapuwanza* (is) his frontier but the *hallapuwanza* (is) in the land of Hūlaya.”<sup>12</sup>

Mount Hutnuwanta most probably lies in the immediate vicinity of the land of Pedašša, forming a natural border with that land. However, the text states that this mountain does not constitute a frontier with the Hūlaya river land, the *hallapuwanza* does. About that glossed word, see below, p. 91-92 *sub* Mount Huwatnuwanta.

<sup>11</sup> Forlanini 1998a: 221 thinks that the KASKAL.KUR of Arimmatta could be the Beyşehir lake. However, this lake, whatever size it was during the Hittite period, was probably a noticeable feature of the local landscape. Therefore, it should not have been defined in the Hittite texts by its relationship with a particular city, like in the case of a mountain for instance.

<sup>12</sup> UT (KBo 4.10++ Obv. 20’; van den Hout 1995: 26-27) // BT i 29-30 (Otten 1988: 12-13): *IŠTU HUR.SAG Hutnuwantaš=ma=(š)ši* (BT: *HUR.SAG Huwatnuwanta=ma=(š)ši*) : *hallapuwanza ZAG-aš* : (Glossenkeil omitted in BT) *hallapuwanza=ma=kan ANA* (BT: *INA*) KUR <sup>17</sup> *Hūlaya aššan*.

#### Section 4

Probably not far from Mount Hutnuwanta lies the city of Kuršawanš/ta. A frontier is associated with this city:

“Toward the city of Kuršawanš/ta, up behind (the city), the *huwaši*-stone of the dog (is) his frontier.”<sup>13</sup>

Neither the UT nor the BT specify the lands to which this city of Kuršawanša<sup>14</sup> belongs. The short allusion made to a border probably places this city north of the Hūlaya river land, for which the “*huwaši*-stone of the dog” is the frontier. The latter cultic monument could take any shape: a natural rock, a constructed stone monument, even a building (see, for instance, Hutter 1993). However, as natural topographic features are logically the best choice for visualizing a frontier, we suggest that the “*huwaši*-stone of the dog” is rather a natural rock that served as a cultic place.

#### The frontier with the land of Ušša

The continuation of the treaties deals with the land of Ušša.

#### Section 5

“Toward the city of Ušša, the city of Zarata (is) his frontier but Zarata (is) in the land of the Hūlaya river.”<sup>15</sup>

The two texts do not specify what natural feature actually marks the frontier on this very spot, only that Zarata is nearby.

The next lines of the treaties deal with the city of Wanzataruwa (KBo 4.10++ Obv. 21'-22' and BT i 33-34), whose frontier is the city of Harazuwa (BT: Harazzuwa), the latter belonging to the land of Ušša. As this passage does not mention the Hūlaya river land, we believe that we are now in the eastern part of the Ušša land, which no longer has a common frontier with the Hūlaya river land.

#### The frontier with Mount Kuwaliyatta/Kuwakuwalyatta

The Hūlaya river land appears again in the next section of the texts dealing with Mount Kuwaliyatta/Kuwakuwalyatta.

<sup>13</sup> UT (KBo 4.10++ Obv. 20'-21'; van den Hout 1995: 26-27) // BT i 31 (Otten 1988: 12-13): <sup>URU</sup>Kuršawanšaš=ma=kan (BT: <sup>URU</sup>Kuwaršauwantaz=ma=(š)ši=kan) EGIR (BT: EGIR-an) UGU (BT: šarā) UR.GI<sub>7</sub>-aš<sup>NA4</sup>huwaši ZAG-aš.

<sup>14</sup> The connection between Hittite Kuršawanša and Classical Soanda, suggested by Garstang 1944: 30 on the basis of phonetic similarities, seems unconvincing to us.

<sup>15</sup> UT (KBo 4.10++ Obv. 21'; van den Hout 1995: 26-27) // BT i 32-33 (Otten 1988: 12-13): <sup>URU</sup>Uššaza=ma=(š)ši (BT: <sup>URU</sup>Uššaz=ma=(š)ši) <sup>URU</sup>Zarataš (BT: <sup>URU</sup>Zarataš) ZAG-aš <sup>URU</sup>Zarataš=ma=kan (BT: <sup>URU</sup>Zarataš=ma=kan) ANA (BT: INA) KUR <sup>17</sup>Hūlaya aššanza.



## Section 6

The UT states:

“Toward the mountain Kuwaliyatta, in the previous tablets, the city of Šuttašna was his frontier. Now I, the Great King, made the city of Šantimma his frontier but Šantimma (is) in the land of the Hūlaya river.”<sup>16</sup>

The BT, however, states:

“Toward the mountain Kuwakuwaliyatta, in the previous treaty tablets of my father, the city of Šuttašna (was) made his frontier. It so happened that my father himself made the city of Šantimma his frontier but Šantimma (is) in the land of the Hūlaya river.”<sup>17</sup>

Note that the BT is more specific than the UT, as it notes that the previous tablets in which this frontier was described had been treaty tablets from the time of Tudhaliya IV’s father. However, the fact that these “previous tablets” are already mentioned in the UT implies the existence of a yet older Tarhuntašša treaty preceding the UT. The BT indicates that this older treaty was established during Hattušili III’s reign. The new frontier established by Hattušili III apparently remained the same during his son’s reign. There are several ambiguities in both texts: they do not specify to what land Šuttašna belongs, nor do they specify whether Šantimma is north or south of Šuttašna.

## The frontier with the land of Hatti

### Section 7

The description mentions the city of Wanzataruwa again, but this time in association with the Hūlaya river land:

“Toward the city of Wanzataruwa (and) the city Kunzinaša the mountain Arlanta (and) the city of Alana (are) his frontiers (but) Alana (is) in the land of the Hūlaya river. However, the water which (is) on top of Mount Arlanta (is) both in the land of Hatti and in the land of the Hūlaya river.”<sup>18</sup>

The city of Wanzataruwa was previously described as having a common frontier with the land of Ušša, but at that stage the land of the Hūlaya river was not mentioned. So it

<sup>16</sup> UT (KBo 4.10++ Obv. 22’-24’; van den Hout 1995: 28-29): *IŠTU*<sup>HUR.SAG</sup> *Kuwaliyatta=ma=(š)ši hantezziyaš ANA TUPPA*<sup>HÁ</sup> <sup>URU</sup> *Šuttašnaš ZAG-aš ēšta kinun=ma=(š)ši LUGAL.GAL* <sup>URU</sup> *Šantimman ZAG-an iyanun* <sup>URU</sup> *Šantimmaš=ma=kan ANA KUR* <sup>17</sup> *Hūlaya āššanza*.

<sup>17</sup> BT i 35-38 (Otten 1988: 12-13): *IŠTU*<sup>HUR.SAG</sup> *Kuwakuwaliyatta=ma=(š)ši hantezziyaš ANA TUPPA*<sup>HÁ</sup> *RIKILTI ŠA ABI=YA* <sup>URU</sup> *Šuttašnaš ZAG-aš iyanza nu=(š)ši uit ABU=YA=pat* <sup>URU</sup> *Šantimman ZAG-an iyat* <sup>URU</sup> *Šantimmaš=ma=kan ANA KUR* <sup>17</sup> *Hūlaya āššanza*.

<sup>18</sup> UT treaty (KBo 4.10++ Obv. 24’-26’; van den Hout 1995: 28-29) // BT i 38-42 (Otten 1988: 12-13): <sup>URU</sup> *Wanzataruwaš=ma=(š)ši* (BT: <sup>URU</sup> *Wanzataruwaz=ma=(š)ši*) <sup>URU</sup> *Kunzinaša* (BT: <sup>URU</sup> *Kunzinašaz*) <sup>HUR.SAG</sup> *Arlantaš* <sup>URU</sup> *Alanaš* (BT: <sup>URU</sup> *Alanaš*) *ZAG-aš nu=kan* <sup>URU</sup> *Alanaš* (BT: <sup>URU</sup> *Alanaš*) *ANA* (BT: *INA*) *KUR* <sup>17</sup> *Hūlaya āššanza watar=ma=kan kuit ANA* (BT: *INA*) <sup>HUR.SAG</sup> *Arlanta* (BT: <sup>HUR.SAG</sup> *Ārlanta*) *šer n=at=kan ANA KUR* <sup>URU</sup> *HATTI U ANA KUR* <sup>17</sup> *Hūlaya* (BT: *ANA KUR* <sup>17</sup> *Hūlaya U ANA KUR* <sup>URU</sup> *HATTI*) *takšan āššan*.

is tempting to believe that Wanzataruwa lies east or northeast of Ušša and northeast of the land of Hūlaya. Note that the mountain Arlanta clearly marks the southeastern frontier of Wanzataruwa with the Hūlaya river land, the city of Wanzataruwa belonging to the land of Hatti.

### Section 8

“Toward the city of Šinnuwanta (BT: Šinwanta), the mountain Lūla (BT adds: (and) the *damnaššara*- mountains) (is) his frontier but the city of Ninainta (is) in the land of the Hūlaya river. The TUKUL-estate of the golden chariot-fighter,<sup>19</sup> who (is) to the rear, (is) for My Sun.”<sup>20</sup>

This section is elusive. It does not specify the exact connection between Ninainta and Mount Lūla, nor does it expressly connect the TUKUL-estate of the golden chariot-fighter with Ninainta or any other element of the section. Therefore, it is difficult to visualize the area as a whole. If, as we believe, the texts generally follow a consistent geographical order, this would mean that Ninainta is mentioned right after Šinnuwanta because it is the city on the other side of the frontier between Šinnuwanta and the Hūlaya river land. The mountain Lūla, with its extension called the *damnaššara*- mountains in the BT, marks this frontier. As for the TUKUL-estate, as it is described in such treaties, its status is debatable. Therefore, it was probably on the frontier “to the rear” of the Lūla mountain itself.

## The frontier with the city of Zarnuša

### Section 9

In the UT, we read:

“Toward the city of Zarnuša, the *harmima*- (is) his frontier but the *harmima*- (is) in the <land> of the Hūlaya river.”<sup>21</sup>

The situation described in the BT for the same section is quite different:

“Toward the city of Zarnušašša, the city of Harmima was his frontier but I, My Sun, made the city of Uppaššana his frontier. However, Uppaššana (is) in the land of the Hūlaya river.”<sup>22</sup>

<sup>19</sup> About this type of payment, see Beal 1988.

<sup>20</sup> UT (KBo 4.10++ Obv. 26'-27'; van den Hout 1995: 28-31) // BT i 43-45 (Ottén 1988: 12-13):  
<sup>URU</sup>Šinnuwantaza=ma=(š)ši (BT: <sup>URU</sup>Šinwantaz=ma=(š)ši) <sup>HUR.SAG</sup>Lūlaš (BT adds: HUR.SAG<sup>MEŠ</sup> *damnaššaruš*) ZAG-  
 aš<sup>URU</sup>Ninaintaš=ma=kan ANA (BT: INA) KUR <sup>17</sup>Hūlaya āššanza <sup>GIŠ</sup>TUKUL (BT adds: ŠA) <sup>LÚ</sup>KUŠ, KÙ.GI=ma=kan  
 kuiš EGIR-an n=aš=kan ANA <sup>DUTU</sup>-ŠI āššanza.

<sup>21</sup> UT (KBo 4.10++ Obv. 27'-28'; van den Hout 1995: 30-31): <sup>URU</sup>Zarnušaš=ma=(š)ši : *harmimaš* ZAG-aš :  
*harmimaš*=ma=kan ANA <KUR> <sup>17</sup>Hūlaya āššanza.

<sup>22</sup> BT i 45-47 (Ottén 1988: 12-13): <sup>URU</sup>Zarnušaššaz=ma=(š)ši <sup>URU</sup>Harmimaš ZAG-aš ēšta <sup>DUTU</sup>-ŠI=ma=(š)ši  
<sup>URU</sup>Uppaššanaz ZAG-an iyanun <sup>URU</sup>Uppaššanaš=ma=kan INA KUR <sup>17</sup>Hūlaya āššanza.

What the scribe of the UT considered a glossed word, namely: *harmima-*, is interpreted as a toponym in the BT.<sup>23</sup> The UT seems to be the corrupt version, so that Harmima is probably a city name as indicated in the BT. However, this suggestion remains conjectural, as there seems to be no other occurrence of this name in the Hittite texts.

The BT reveals that Tudhaliya changed the location of the frontier from Zarnuša/Zarnušašša to Uppaššana. This passage of the BT is ambiguous with respect to the location of Uppaššana in relation to Harmima. Was Harmima north or south of Uppaššana? Although one could believe that Tudhaliya gave extra territories to Kuruntiya (de Martino 1999: 294), was this systematically the case for each section of the frontier? The text does not resolve this issue.

The city of Uppaššana is also mentioned later on in the BT as part of the land of Tarhuntašša (Otten 1988: 14-5, § 9).<sup>24</sup> This shows that the Hūlaya river land belongs completely or only partly to the appanage of Tarhuntašša.

The next section does not mention the Hūlaya river land, but focuses on the city of Zarwiša (KBo 4.10++ Obv. 28' and BT i 48), whose frontier is Mount Šarlaimmi, as well as the KASKAL.KUR-s of *hinnaruwa*-water(?).<sup>25</sup> Then the High Mountain is mentioned along with its frontier, the city of Šaliya, which is said to be in the land of Hatti (KBo 4.10++ Obv. 28'-29' and BT i 49-50).

### The frontier with the city of Uššaula

The two Tarhuntašša treaties diverge from each other at this point in the text. The BT inserts two additional sections related to the frontier of the Hūlaya river land, starting with the surroundings of the city of Uššaula.

#### Section 10

"Toward the frontier of the city of Uššaula, the cities of Haššuwantā, Mila, Palmata, Hašhaša, Šura (and) Šimmuwantā (are) his frontiers but these cities (are) in the land of the Hūlaya river."<sup>26</sup>

None of the above-listed cities are mentioned in the UT, with the remarkable exception of Haššuwantā (see below, p. 105 *sub* Uššaula), so the attribution of these cities to the Hūlaya river land could be a novelty instituted by Tudhaliya on the occasion of the BT. Note that the city of Uš(š)aula (spelled Ušawala) is mentioned later on in the UT as a frontier-city of the land of Walma.

<sup>23</sup> See also Otten 1988: 35.

<sup>24</sup> This was already observed by Houwink ten Cate 1992: 245.

<sup>25</sup> The nature of this feature of the local landscape is unknown. Yakar 2014: 503 identifies it with the cinder cone of the Meke dağı, southeast of Konya. However, his suggestion is conjectural. The same can be said of the suggestion of Hawkins (2015: 8), who equates the KASKAL.KUR to the İvriz spring, as he does not take into account the plural marker of KASKAL.KUR in the UT.

<sup>26</sup> BT i 50-52 (Otten 1988: 12-13): <sup>URU</sup>Uššaulaz=ma=(š)ši ZAG-za <sup>URU</sup>Haššuwantāš <sup>URU</sup>Milaš <sup>URU</sup>Palmataš <sup>URU</sup>Hašhašaš <sup>URU</sup>Šuras <sup>URU</sup>Šimmuwantāš ZAG-aš kūš=ma=kan <sup>URU</sup>JIDLI.HÁ INA KUR <sup>17</sup>Hūlaya āššanteš.

## The frontier with the city of Hauwaliya

The BT adds the following passage about the surroundings of the city of Hauwaliya.

### Section 11

“Toward the frontier of the city of Hauwaliya, the cities of Walwara, Harhašuwanta, Tarāpa, Šarnanta, Tūpiša, Paraiyašša (and) the *upati*-estate<sup>27</sup> of the city of Nāta (are) his frontier (but) these cities as well as the *upati*-estate<sup>2</sup> of Nāta (are) in the land of the Hūlaya river.”<sup>28</sup>

The city of Walwara is also mentioned in the UT, as we will see in the next section. However, none of the other city names are present in that earlier treaty. Note that both the city of Tarāpa and that of Paraiyašša (then spelled Pariyašša) are mentioned later on in the BT as belonging to the land of Tarhuntašša (BT i 79 and i 74 respectively). This shows, once more, the overlap of the Hūlaya river land with the appanage of Tarhuntašša.

## The frontier with the city of Walwara

The next section is present in both treaties, albeit differently. The UT states:

### Section 12

“Toward the outside (land), the city of Walwara (is) his <frontier>. Whatever *upati*-estate<sup>2</sup> (is in?) Walwara, the cities of Matā, Šanhata, Šurimma, Šaranduwa (and) Daddašši (are his) <frontier>. Toward the frontier of Šaran[d]uwa, whatever place to which he carries weapon (is) in the land of the Hūlaya river.”<sup>29</sup>

However, the BT indicates:

“Toward the place of the *aruna*-, the cities of Mātā, Šanhata, Šurimma, Šaranduwa, Ištappanna, the *upati*-estate<sup>2</sup> of the city of Šalluša, (as well as) the cities of Tatta (and) Dāša (are) his frontier but these cities (are) in the land of the Hūlaya river. Toward the frontier of Šaranduwa, the *aruna*- (is) his frontier.”<sup>30</sup>

The UT version is quite confused. Three different borders seem to be described. The first border separates the “outside (land)” to Tarhuntašša, with Walwara presumably being the frontier-city. This expression should designate an enemy of Hatti. The continuation of the UT

<sup>27</sup> About the *upati*, see Beal 1992: 539-549.

<sup>28</sup> BT i 53-56 (Otten 1988: 12-13): <sup>URU</sup>Hauwaliyaz=*ma*=(š)š <sup>ZAG</sup>-za <sup>URU</sup>Walwaraš <sup>URU</sup>Harhašuwantaš <sup>URU</sup>Tarāpaš <sup>URU</sup>Šarnantaš <sup>URU</sup>Tūpišaš <sup>URU</sup>Paraiyaššaš <sup>URU</sup>Nātaš upati <sup>ZAG</sup>-aš <sup>URU</sup>kūš=*kan* <sup>URU</sup>DIDLI.HÁ <sup>URU</sup>Nātaš=(š)a upati <sup>INA</sup>KUR <sup>17</sup>Hūlaya āššan.

<sup>29</sup> UT (KBo 4.10++ Obv. 29'-31'; van den Hout 1995: 30-31): *arabzenaza*=*ma*=(š)š <sup>URU</sup>Walwaraš <<sup>ZAG</sup>-aš> <sup>URU</sup>Walwara=*ya kuit kuit* : upati <sup>URU</sup>Matāš <sup>URU</sup>Šanhataš <sup>URU</sup>Šurimmaš <sup>URU</sup>Šaranduwaš <sup>URU</sup>Daddaššiš <<sup>ZAG</sup>-aš> <sup>IŠTU</sup>ZAG <sup>URU</sup>Šaran[d]uwa=*ma kuedani pedi* <sup>GIŠTUKUL</sup>arnuzzi *n=at=kan* <sup>ANA</sup>KUR <sup>17</sup>Hūlaya āššan.

<sup>30</sup> BT i 56-60 (Otten 1988: 12-13): *arunaz*=*ma*=(š)š <sup>URU</sup>pēdaz <sup>URU</sup>Mātāš <sup>URU</sup>Šanhataš <sup>URU</sup>Šurimmaš <sup>URU</sup>Šaranduwaš <sup>URU</sup>Ištappannaš <sup>URU</sup>Šallušaš upati <sup>URU</sup>Tattaš <sup>URU</sup>Dāšaš <sup>ZAG</sup>-aš <sup>URU</sup>kūš=*ma=kan* <sup>URU</sup>DIDLI.HÁ <sup>INA</sup>KUR <sup>17</sup>Hūlaya āššanteš <sup>IŠTU</sup>ZAG <sup>URU</sup>Šaranduwa=*ma*=(š)š <sup>URU</sup>arunaš <sup>ZAG</sup>-aš.

around the *upati*- of Walwara is obscure and seems impossible to render graphically on a map. The third border is defined by a place where “he carries (a) weapon”, an allusion that has been interpreted in different ways.<sup>31</sup>

The BT is clearer but does not echo the same geo-political reality. Instead of taking the “outside (land)” as a reference point, it uses “the place of the *aruna*-”, a Hittite term traditionally translated as “sea”, but which might also designate a big lake (*HW*<sup>2</sup> A: 350). All the mentioned cities are said to be at the frontier of “the place of the *aruna*-”, and the very existence of such a frontier, which seems distinct from the *aruna*- itself, could mean that the land of the Hūlaya river did not reach the *aruna*- everywhere. However, Šaranduwa, which belongs to the Hūlaya river land, has its frontier at the *aruna*-. Therefore, one should probably imagine that the Hūlaya river land and the appanage of Tarhuntašša overlapped at Šaranduwa, thus reaching the *aruna*-. The question we would like to address is: could the *aruna*- be the Beyşehir lake? Indeed, the seeming absence of this lake in the description of the Hūlaya river land is potentially surprising. We first thought that the *aruna*- mentioned could not be the Beyşehir lake because of the clockwise organization of the description of the frontier zones in the Tarhuntašša treaties. However, we noticed that at least one section of the BT was inserted in the wrong place, thus disrupting this clockwise order (see below, p. 105 *sub* Uššaula). Therefore, one cannot *a priori* exclude the possibility that the *aruna*- mentioned in the BT is the Beyşehir lake. This interpretation would present one advantage: it would match the orientation toward “the outside (land)” chosen by the UT. We believe that this hypothesis should be kept in mind and verified alongside the rest of the evidence.

In addition, the BT adds a toponym to the list, namely Ištapanna, and it also mentions the names Tatta and Dāša where the UT had named only Daddašši. This looks like another scribal mistake on the UT, where two distinct toponyms were misinterpreted as a single name during dictation.<sup>32</sup>

The lack of any mention of the “outside (land)” in the BT might be explained, as argued by Melchert (2007: 510), by the fact that the “outside land” – namely the Lukka heartland – was conquered by Tudhaliya IV, as documented by the YALBURT hieroglyphic inscription (Poetto 1993: 47).

The BT inserts yet another short section referring to the city of Parha, thus giving us a firm point in the southern portion of the map, as we have good reasons to believe that Parha equates with Classical Perge (Otten 1989: 19). The text indicates that Parha has the Kaštaraya river (Classical Kestros, modern Aksu; Otten 1989: 18-9) as its frontier (BT i 61-64), but does not yet belong to the appanage of Tarhuntašša. It specifies that in case the land of Parha is conquered by the Hittite king, it will also be given to the king of Tarhuntašša. This means that it does not belong to the land of Hatti either at the time of the BT.

<sup>31</sup> See, for example, two differing interpretations from van den Hout 1995: 31 and Beckman 1996: 105.

<sup>32</sup> Otten (1988: 36-37 fn. 35) mentions “Korruptel”, and Melchert (2007: 510 fn. 10) calls the UT version a “garbled version” of the BT version. None of them mention the possibility of a distortion engendered by dictation.



### The frontier with the city of Walma

Both Tarhuntašša treaties then deal with the frontier with the land of Walma, albeit differently.

#### Section 13

The UT states:

“Toward the land of Walma, the cities of Waltanna, Ušawala, Alluprata (and) Huhhura (are) his frontier but these cities (are) in the land of the Hūlaya river.”<sup>33</sup>

The BT states in its turn:

“Toward the frontier of the city of Walma, the cities of Huwahuwarwa, Alluprata, Kaparuwa, Haššuwanta, Walippa (and) Wala (are) his frontier but these cities (are) in the land of the Hūlaya river.”<sup>34</sup>

The cities mentioned at the frontier are only partly the same: although Alluprata and Huhhura (most probably the same as Huwahuwarwa) are mentioned in both texts, the city names Waltanna and Ušawala mentioned in the UT have been omitted from the BT, whereas the latter adds Kaparuwa, Haššuwanta, Walippa and Wala. This probably implies a change in the frontier design in this section. If we combine this section with Section 10 attested by the BT, we can deduce that Waltanna and moreover Ušaula/Ušawala had previously belonged to the land of the Hūlaya river and were removed from it during the reign of Tudhaliya IV.

### Other data related to the Hūlaya river land from the Tarhuntašša treaties and other texts

The Tarhuntašša treaties provide other details about the Hūlaya river land. The BT includes a long list of city names that are said to be “inside of the Tarhuntašša land” but had previously belonged to the king of Hatti (BT i 68-69: ŠÀ-BI KUR<sup>URU.D</sup>U-tašša=ya=kan kuiēš URU<sup>DIDL.HÁ</sup> ŠA LUGAL KUR<sup>URU</sup>HATTI ešer). Three cities on this list are described as belonging to the Hūlaya river land earlier in the same text: Pariyašša (previously spelled Paraiyašša), Uppaššana and Tarāpa. Several people who actually lived in the land of Tarhuntašša were considered subjects of the king of Hatti anyway at the time of Hattušili, although no written agreement had specified it (BT i 87-90). Tudhaliya clarifies the situation of all these people and decides to make them subjects of Kuruntiya instead (BT ii 62-63). This, incidentally, shows that the land of the Hūlaya river is part of the kingdom of Tarhuntašša.

Both the UT and the BT mention the land of Tarhuntašša in relation to sources of salt. Some of these are described as being in the land of the Hūlaya river (KBo 4.10++ Obv. 33' and followings // BT ii 4 and followings). Salt is indeed present on the Konya plain. Apart from the

<sup>33</sup> UT (KBo 4.10++ Obv. 31'-32'; van den Hout 1995: 30-31): IŠTU KUR<sup>URU</sup>Walma<<m>>=ma=(š)š URU Waltanna URU Ušawalaš URU Alluprataš URU Huhhuraš ZAG-aš kūš=ma=kan URU<sup>DIDL.HÁ</sup> ANA KUR<sup>17</sup> Hūlaya āššanteš.

<sup>34</sup> BT i 64-67 (Otten 1988: 12-13): IŠTU ZAG<sup>URU</sup>Walma=ma=(š)š URU Huwahuwarwaš URU Alluprataš URU Kaparuwaš URU Haššuwantaš URU Walippaš URU Walaš ZAG-aš kūš=ma=kan URU<sup>DIDL.HÁ</sup> INA KUR<sup>URU.17</sup> Hūlaya āššanteš.

Tuz gölü itself, salt lakes can be found at Karapınar (Meke gölü and Acıgöl – Lefond 1969: 360; Yılmaz 2010).

Outside of the Tarhuntašša treaties, the Hūlaya river (*RLA* 4: 489; *RGTC* 6: 529; *RGTC* 6/2: 40-1) is mentioned in several Hittite texts. The Telepinu edict states that there was a Hittite state store house at the Hūlaya river (Hoffmann 1984: 42-3). A fragment of a religious text associates the land of the Hūlaya river with cultic events (KBo 9.99:3'; see below, p. 100 *sub* Šinnuwanta).





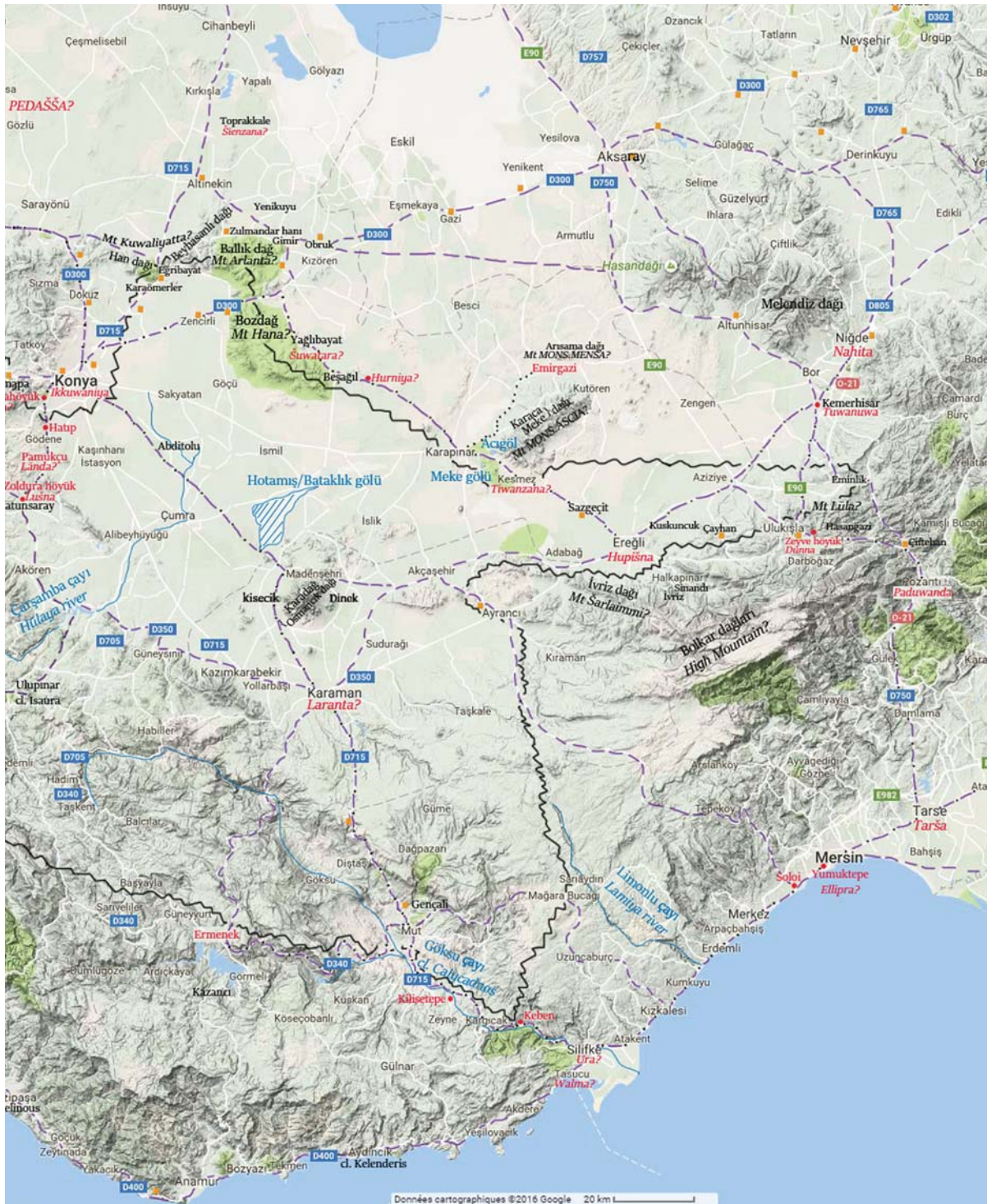


Fig. 1. Suggested reconstruction of the Hūlaya river land.

# THE HÜLAYA RIVER LAND AND ITS VICINITY: EVIDENCE FROM OTHER HITTITE TEXTS AND ARCHAEOLOGY

Several geographical names directly related to the Hūlaya river land are mentioned in other Hittite texts.<sup>35</sup> We will now examine them cluster by cluster, synthesizing all the written sources and archaeological reports (fig. 1). The order of the toponyms will follow that of the Tarhuntašša treaties.

## Mount Hauwa, Pedašša and Zarniya

Mount Hauwa (*RLA* 4: 238; *RGTC* 6: 105; *RGTC* 6/2: 37) constitutes the frontier of the land of Pedašša in Section 1 of the Tarhuntašša treaties. The land of Pedašša is itself located north of the Beyşehir lake by Forlanini (2008: 67 fn. 47), while Hawkins (1995: 51 fn. 177 and 1998: 22) places it west of the Salt lake between Polatlı and Kadınhanı. Garstang and Gurney (1959: 74) suggested the foothills of the Sultan dağları. Pedašša, a vassal land of Hatti (as illustrated by Muršili II's prayer: CTH 376; García Trabazo 2002: 298-9), would stretch in a north-south direction according to Melchert (2003: 6). The Deeds of Šuppiluliuma (del Monte 2009: 52 and 61), as well as the Indictment of Madduwatta (Beckman *et al.* 2011: 88-9) and the treaty of Kupanta-Kuruntiya of Mira-Kuwaliya (Beckman 1996: 70, § 4), articulate the immediate proximity of Pedašša with Arzawa. Other texts show that Pedašša is also close to Hapalla, a land that was itself neighbor to Kuwaliya and included in Greater Arzawa (Heinhold-Krahmer 1977: 346-8). According to Hawkins (1998: 8), Hapalla would be in the Hermos valley (the modern Gediz river passing modern Manisa and going to the Aegean sea) and near the Siyanta river land (Hawkins 1998: 25 fn. 153). Hawkins identifies the Siyanta river itself as either the Tembris/Porsuk çayı (the watercourse passing modern Eskişehir and going south to Kütahya) or the Seydi çayı, classical Parthenios (a branch of the Sakarya river running northeast of Afyonkarahisar – Hawkins 1998: 22). The Siyanta river would thus form the frontier between Hatti and the land of Mira. Hawkins also states, "That Hapalla was attacked from the Lower Land is important for its localization, for which inner Pisidia is indicated. A position south of the angle formed by the Karakuş and Sultan dağları would explain Hapalla's proximity to but separation from Kuwaliya and Pedassa" (Hawkins 1998: 14 fn. 39). This seems to secure a position of Pedašša northeast of Beyşehir lake and much further east than the Hermos valley. Note that an identification of the Siyanta river with one particular modern counterpart seems quite impossible for the time being (Gander 2010: 192).

Thus it seems that Section 1 of the Tarhuntašša treaties starts northeast of Beyşehir lake, where the land of Pedašša might be located. If we start Section 1 strictly north of Beyşehir lake, Mount Hauwa, which constitutes the first natural frontier between Pedašša and the Hūlaya river land, could be the Sultan dağları, as it constitutes a very large mountain with a northwest-southeast orientation. Furthermore, one expects the Hūlaya river land to be roughly

<sup>35</sup> Data compiled from *RGTC* 6 and 6/2, but also from the indices of all the KBo volumes published after *RGTC* 6/2. Concerning the classical and Byzantine data, one could consult the Digital Atlas of the Roman Empire (<http://imperium.ahlfeldt.se/places/>), the Monumenta Asiae Minoris Antiqua XI website (<http://mama.csad.ox.ac.uk/monuments/>), as well as Belke 1984.

located in the valley of the Hūlaya, but not west of Beyşehir lake; this lake should constitute a natural boundary on the western side. Therefore, the Sultan dağları seems to constitute the most logical candidate for Mount Hauwa. This mountain could constitute a double frontier: 1) a north-south frontier separating the land of Pedašša from the Hūlaya river land; 2) an east-west frontier separating the land of Pedašša from another land (probably the land of Hapalla<sup>36</sup> included in the Great Arzawa).

Erenler dağı (also called Erenkilit dağı), situated northeast of Fasıllar, has been tentatively identified with Mount Hauwa by Freu (2009: 50) and Yakar (2014: 509). This same mountain Hauwa was identified with Aladağ by Forrer (1926: 25), and with Hakit dağı (northwest of Konya near Kadınhanı) by Gurney and Garstang (1959: 73), whereas Forlanini (1998a: 224) declined to place it on the map. However, if we consider that the Tarhuntašša treaties describe the land of the Hūlaya river clockwise, starting from the north, then Mount Hauwa (appearing in Section 1 of the treaties)<sup>37</sup> should be north of the Hūlaya river land. While looking at the map of the region, the Sultan dağları appear as the most prominent mountain, stretching northwest-southeast. However, the identification of Mount Hauwa with Erenkilit dağı cannot be ruled out either, as it could also constitute a north-south frontier between the land of Pedašša and that of the Hūlaya river. As Section 3 of the Tarhuntašša treaties mentions yet another mountain (whose importance is witnessed by the text; see below, p. 91 *sub* Mount Huwatnuwanta) – we believe the Sultan dağları fit better for an identification with Mount Hauwa, so that the two mountain chains form a homogenous frontier line northwest of Konya.

The two Tarhuntašša treaties provide the only two Hittite mentions of the name Zarniya (RGTC 6: 495; RGTC 6/2: 193). However, an Old Assyrian text might refer to the same place (Barjamovic 2011: 361 fn. 1509). Section 1 of the treaties states that the *kantanna* of Zarniya constitutes a frontier between Pedašša and the land of the Hūlaya river, together with Mount Hauwa and the city of Šanantarwa. However, the *kantanna* of Zarniya is within the Hūlaya river land. If Mount Hauwa is the Sultan dağları, and if the Tarhuntašša treaties follow a clockwise order from west to east, Zarniya would be located somewhere near the northeastern coast of Beyşehir lake and the southern slopes of the Sultan dağları. As we suggest the existence of a Hittite northwest-southeast road passing Eflatunpınar and going toward Üçpınar (see below, p. 109 *sub* Eflatunpınar to Üçpınar höyük), Zarniya could be on the northern extent of this road, which lies south of the Sultan dağları, near Kireli. The meaning of the glossed word *kantanna* is uncertain (Otten 1988: 32). It seems to be a Luwian *hapax legomenon* that designates a feature of the landscape (Melchert 1993: 100). Freu (2009: 43) suggested translating this word as “district céralier?”, thus comparing it to Hittite *kant*- “wheat”. However, this interpretation cannot be corroborated. If our suggestions are correct, one should look for a visible feature of the landscape on the slopes of the Sultan dağları. As for whether Šanantarwa lies on the other side of Section 1 of the frontier, this city is not mentioned anywhere else (RGTC 6: 343; RGTC 6/2: 138). A localization of Šanantarwa on the Pedaššan (i.e., northern) side of the Sultan dağları (at modern Doğanhisar and near classical Hadrianopolis/Thymbrion?) seems possible. At Doğanhisar, the site of Kara Höyük has Late Bronze-Age ceramic material

<sup>36</sup> Note that this hypothesis definitely invalidates the equation Hapalla = Kabala in the close vicinity of Konya, *contra* Forlanini 1988: 153.

<sup>37</sup> Equating Mount Hawa with Mount Hana, as Freu (1980: 243\*) suggests, should be avoided.



(Bahar, Koçak 2004: 45, table H; BIAA pottery and collections database<sup>38</sup> box no. BIAA.432.1 (1875)). Note also that Forlanini (1988: 151) locates the Hittite city of Piša at modern Çamlı (former Pise and classical Pissia), which is in the same area.

### **Arimmatta, Nahhanta and Hautašša**

Arimmatta (*RLA* 1: 149; *RGTC* 6: 32; *RGTC* 6/2: 10) is described in the Tarhuntašša treaties as being at the frontier of Pedašša. Forlanini (1998a: 221-2) suggests that the city of Arimmatta could be at modern Gökçimen, some 7.5 km southeast of the modern city of Beyşehir, because its name could, according to him, have passed through time. However, locating Arimmatta southeast of Beyşehir lake is hardly compatible with the traditional localization of the land of Pedašša north of the same lake, as Arimmatta is described as a frontier-city of this land in the Tarhuntašša treaties. Therefore, Forlanini's suggestion should probably be discarded and Arimmatta placed somewhere northeast of Beyşehir lake. Note that Arim(m)atta is also mentioned in the royal annals CTH 13 in association with the “man of Purušhanda” (de Martino 2003: 144-5).

If the Tarhuntašša treaties follow a clockwise order, Arimmatta should lie somewhere northeast of Zarniya and between the Sultan dağları and Aladağ. Note that Arimmatta is on the Pedaššan (i.e., northern) side of the frontier with the Hūlaya river land. Its location does not fit the equation suggested by Dinçol *et al.*, i.e. Arimmatta = Eflatunpınar (see above, p. 78 *sub* Pedašša frontier). However, a localization in the area of Ilgın (classical Lageina and near classical Tyraion) seems possible to us. Note that Karauğuz (2005: 148 and 180-1) enumerates several mounds with second-millennium-BC ceramic material at Ilgın. About 2.3 km south of Ilgın and between Ormanözü and Çatak, the site of Boz höyük provided a great number of Hittite potsherds (Harmanşah, Johnson 2013: 77). On the ancient road linking Ilgın to Kadınhanı lies Köylütolu where a hieroglyphic inscription was found (Ehringhaus 2005: 46-8). A secondary branch of this road might then have gone north, as several Hittite sites seem to indicate, such as Küllük höyük (Harmanşah, Johnson 2013: 77) and Kale tepesi at Zaferiye, some 11 km northeast of Ilgın (Dinçol *et al.* 2000: 3; Yakar *et al.* 2001: 716; Harmanşah, Johnson 2013: 77-8). Kale tepesi is rich in Late Bronze-Age ceramic and only about 16 km away from the Hittite sacred pool of Yalburt, a place where the Great King was probably going in pilgrimage. The sites of Orta tepe and Mahmuthisar höyük, also in the close vicinity of Ilgın, are two more Hittite settlements according to their ceramic (Harmanşah and Johnson 2013: 78-9). Harmanşah and Johnson (2014: 382) even found a Hittite pithos cemetery in this area, at Çavuşçugöl. As for the KASKAL.KUR-s of Arimmatta mentioned in the Tarhuntašša treaties, the most logical interpretation would be that they are visible features of the local landscape (see Gordon 1967; Erbil and Mouton 2012: 59), possibly caves with water (*pace* Hawkins 2015: 8).

Both Nahhanta and Hautašša are described in the BT as frontier-cities between Pedašša and the Hūlaya river land. Hattušili III included Nahhanta in the land of Pedašša, but Tudhaliya IV restored the former frontier, so that Nahhanta and Hautašša were back in the land of the Hūlaya river. As Nahhanta and Hautašša are mentioned with Arimmatta, which

<sup>38</sup> <http://www.biaatr.org/collections/>.

belongs to the land of Pedašša, these three cities were probably in the vicinity of each other. Both Nahhanta (RGTC 6/2: 109) and Hautašša (RGTC 6/2: 37) occur only in the BT. As they are on the side of the Hūlaya river land, one might look for them somewhere between modern Karaali and modern Yunuslar (classical Pappa/Tiberiopolis).

### Mount Huwatnuwanta/Hutnuwanta and Kuršawanša/Kuwaršawanta

In the prayer of Muwatalli II (CTH 381), Mount Huwatnuwanta (*RLA* 4: 529; RGTC 6: 132; RGTC 6/2: 46) is mentioned as a member of the pantheon of the Lower Land, along with the Hūlaya river, the Storm-god of the city of Ušša and the Storm-god of Puruṣhanda (see below, p. 93 *sub* Ušša). This might imply that we are looking for a remarkable mountain in the area, for it was considered important enough to be mentioned in such a prayer. In the two Tarhuntašša treaties, the mountain is mentioned in Section 3 before the city of Ušša (appearing in Section 5) and right after the mentions of the land of Pedašša (Sections 1 and 2). The mention of “the Hulana [riv]er<sup>2</sup> of Mount Hutnuwanta” in a fragmentary passage of an inventory text (KUB 58.15; Ünal 1995: 274) is uncertain, as only a part of the supposed <sub>17</sub> sign is preserved on the tablet (not restored in García Trabazo and Groddek 2005: 39). If an <sub>17</sub> sign is really there (the traces seem to fit the end of the sign), one might also consider this mention of the Hulana river (maybe classical Tembros, modern Porsuk çayı) to be a confusion with the Hūlaya river from the scribe recording dictation, as suggested by Forlanini (1998a: 225 and fn. 22). Mount Hutnuwanta/Huwatnuwanta is also mentioned in the Šahurunuwa text a little before the Šahariya river (CTH 225; Imparati 1974: 26-7). As the Šahariya is usually identified with the modern Sakarya river (passing west of modern Polatlı), Forlanini (2007a: 290 fn. 17) suggests that this mountain may be identified with the Sultan dağları. However, that the Šahariya river is mentioned after Mount Huwatnuwanta does not attest their immediate proximity. Furthermore, Forlanini’s (1998a: 225) earlier identification of Mount Huwatnuwanta with Aladağ seems to better fit the textual evidence (as argued above, the Sultan dağları could rather be Mount Hauwa).

According to Houwink ten Cate, thus following Garstang and Gurney (1959: 73), Mount Huwatnuwanta could be Bozdağ, which lies northeast of Konya (Houwink ten Cate 1992: 253). However, this localization seems too far east to us, as Mount Huwatnuwanta appears already in Section 3 of the Tarhuntašša treaties right after the mentions of the land of Pedašša (in Sections 1 and 2). As for Barjamovic (2011: 371), he suggests placing this mountain at the Sultan dağları, further north. However, this identification would lead us to place all elements of Sections 1 and 2 of the Tarhuntašša treaties further west on the map, and that reconstruction does not seem convincing to us: as already stated above, the Hūlaya river land is not *a priori* expected to extend west of Beyşehir lake, unless it is taken in a broader sense to designate the whole kingdom of Tarhuntašša.

Therefore, we suggest that Mount Huwatnuwanta is Aladağ, a prominent mountain northwest of Konya. As for the *hallapuwanza*, which constitutes the actual frontier with the Hūlaya river land according to the Tarhuntašša treaties, the meaning of this glossed term of probable Luwian origin is unknown to us (Otten 1988: 34; Melchert 1993: 47). One should look for a topographic feature close to Mount Huwatnuwanta. Freu (2009: 45) indicates:

“terme glosé désignant une zone humide [glossed term which designates a humid area]”. However, there are no philological grounds for this assertion: the term seems to be a *hapax legomenon*.

Kuršawanša/Kuwaršawanta is only attested in the UT and the BT (RGTC 6: 227; RGTC 6/2: 89). Its mention right after that of Mount Huwatnuwanta probably indicates proximity with this mountain. If we try to follow the slopes of Aladağ on the map toward the east, we can look for Kuršawanša somewhere between modern Kızılören and the modern Altınapa dam. As a caravanserai lies on the modern road near the modern village of Kızılören (Kuruçeşme/Kızılören hani), and as another one lies inside the lake engendered by the Altınapa dam (for both caravanserais, see Goodwin 1986: 256),<sup>39</sup> we know that both Kızılören and Altınapa were stations of one of the region’s main roads during the medieval period. This west-east road linking Altınapa to Konya is also attested in the Roman period, and one might easily believe that the road already existed in the Hittite period. The existence of this same road for the period of the Old Assyrian colonies has been suggested by Barjamovic (2011: map). Furthermore, at least one mound with “pre-classical” ceramic material was observed at Kızılören by Olmstead (*apud* Garstang 1944: 25), Mellaart (1954: 192 map 3) and Bahar (1998a: 25-6). Bahar and Koçak (2004: 50, table M) mention the presence of Late Bronze-Age ceramic on that mound.

As for the “*huwaši*-stone of the dog” that serves as a frontier at Kuršawanša, that could be a part of the rock that looks like a dog or anything else in that rocky environment.

### **Ikkuwaniya and Hurniya/Huwarniya**

Although it is not mentioned among the frontier-cities of the Tarhuntašša treaties, Ikkuwaniya (*RLA* 5: 45; RGTC 6: 137-8; RGTC 6/2: 49) is one of the only fixed points on the map and is clearly modern Konya/Classical Ikonion.<sup>40</sup> The reason for not mentioning Ikkuwaniya among the frontier-cities of the Tarhuntašša treaties is that this city was probably neither at the frontier of the Tarhuntašša kingdom nor at that of the Hūlaya river land. The BT mentions Ikkuwaniya later on as one of the places exempted from the *šahhan* and *luzzi* corvées, and with ties to the gods of Tarhuntašša (Otten 1988: 22-3, § 23). This shows that Ikkuwaniya was not far from the frontier although not directly on it. Ušša might be the frontier-city of its area (see below, p. 95 *sub* Ušša; see also Forlanini 2011).

The cities of Ikkuwaniya and Hurniya/Huwarniya (*RLA* 4: 505; RGTC 6: 126-7; RGTC 6/2: 44) are mentioned together in the Telepinu edict (CTH 19, Hoffmann 1984: 42-43, § 37), so they might be neighbor cities. Hu(wa)rniya also appears before the mention of Mount Huwatnuwanta and after that of Mount Hana in the land donation for Šahurunuwa

<sup>39</sup> For a list of the Seljuk caravanserais, see also <http://www.turkishhan.org/homebase.htm> and Kaymakcı 2005 (<http://etd.lib.metu.edu.tr/upload/12606255/index.pdf>).

<sup>40</sup> The toponym Ikuna (*i(a)-ku-na*) of the SÜDBURG hieroglyphic inscription has been compared with Ikkuwaniya by Hawkins 1995: 29. The city would have been lost to Tarhuntašša and then conquered again by Šuppiluliuma II (Hawkins 1995: 54-5). Although Melchert 2002 argued that the SÜDBURG inscription might not have been about conquest, Yakubovich 2008 demonstrated the presence of the keyword “enemy”, which attests the military character of Šuppiluliuma’s acts in that inscription.

(Forlanini 2011). Forlanini (1998a: 229) associates Hurniya and Zarwiša because they occur one after the other in Muwatalli's prayer (Mouton 2016: 632-3, § 37-8) and, as Zarwiša is near Mount Šarlaimmi (see below, p. 102 *sub* Zarwiša and Mount Šarlaimmi), he thinks that both Hurniya and Zarwiša could be between Ikkuwaniya and Hupišna. The identification Hurniya = late Classical Korna seems plausible, but the location of the latter is still uncertain (Forlanini 1998a: 229 fn. 40). Forlanini (2011) suggests placing Hurniya at the site of Bacanak near Gene/Beşağıl, on the southeastern slope of Bozdağ. This localization would suggest a quasi-equivalence of Hittite Mount Hana = classical Kana (village on the slopes of the same mountain) = modern Bozdağ (Forlanini 1998a: 229 fn. 40), which would justify Mount Hana and Hurniya being mentioned near one another in Šahurunuwa's text. In that case, Hurniya would thus be the southern neighbor of Šuwatara (probably classical Soatra, modern Yağlıbayat, on the eastern slopes of Bozdağ; Forlanini 1998a: 227).

The pantheon of Hurniya seems to be briefly described in a fragment of a Muwatalli's prayer. The text indicates: "[The deity ...] (of) the city of Ušša, *IŠTAR* of the city of Lānta, Tarupšani, Muwatti, Pipira, the mother-goddess (of) the city of Š[ah]aniya, Nawatiyalla, all the [male] and female deities, the mountains (and) the watercourses (of) the city of Hurniya."<sup>41</sup> Šah(h)aniya is itself mentioned after Hurniya and Zarwiša in Muwatalli's prayer (Mouton 2016: 632-3, § 39). Furthermore, note that Nawatiyal(l)a is considered one of the main deities of Zarwiša in Muwatalli's prayer (Mouton 2016: 632-3, § 38). A group of deities composed of Tarupšani, Mu[watti] and Pi(n)pir[a] also appears in a prayer sequence (KUB 54.1 ii 40-42; Rieken *et al.* 2015, § 12) along with Arandawašu (otherwise unattested), whereas the oracular report KUB 52.68 seems to mention a cult of this same deity in the city of Inutahapa(-)[...] (KUB 52.68 iii 31). From all that, we can deduce that Hurniya, Lānda, Šah(h)aniya, Zarwiša (near Mount Šarlaimmi) and maybe also Inutahapa(-)[...] (city name otherwise unattested) might form a geographical cluster along with Ušša.

## Ušša

The city of Ušša (*RLA* 14: 507-8; *RGTC* 6: 464-5; *RGTC* 6/2: 181) was the seat of one of the in-laws of the "king's father" during the Hittite Ancient Kingdom (Dardano 1997: 58-9), and it already had a *wabartum* in the Old Assyrian period (Forlanini 2008: 67; Barjamovic 2011: 335-6 fn. 1400). A Middle Hittite land donation text from Hattuša also mentions a "man of Ušša" (Rüster and Wilhelm 2012: 102-5, no. 5). The fact that Ušša was in the Lower Land is attested by a passage of Muwatalli's prayer, in which we read: "the Storm-god of Ušša, the Storm-god of Parašhunta, Mount HuwaLAnuwanda,<sup>42</sup> the Hūlaya river, male and female deities, [m]ountains (and) watercourses of the Lower Land" (Mouton 2016: 634-5, § 43). From this passage, one can deduce that Ušša was an important center of the Lower Land, like Puruṣhanda/Parašhunta.

<sup>41</sup> KUB 57.87 ii 1-6 (Singer 1996: 166): [...] <sup>URU</sup>Ušša <sup>D</sup>IŠTAR <sup>URU</sup>Lānta <sup>D</sup>Tarupšaniš <sup>D</sup>Muwattiš <sup>D</sup>Pipiraš DINGIR. MAH <sup>URU</sup>Š[ah]aniya <sup>D</sup>Nawatiyallaš DINGIR<sup>M</sup>[<sup>ES</sup>.LÚ<sup>M</sup>]<sup>ES</sup> DINGIR<sup>MEŠ</sup>.MUNUS<sup>MEŠ</sup> KUR.KUR<sup>MEŠ</sup> L<sup>MEŠ</sup> hūmanteš <sup>URU</sup>Hurniya. See also Lebrun 2001: 329-30. The lign ii 1 seems to be the continuation of the last lign of i.

<sup>42</sup> CTH 381 where HuwaLAnuwanda probably is a scribal confusion between the sign LA and the sign AD. We do not follow Singer 1996: 137 fn. 307, who suggests that this is the correct reading of the mountain's name.

In a list that seems to describe the pantheon of Hurniya (see above, p. 93 *sub* Hurniya), a deity of Ušša, an *IŠTAR* of Lānta and a mother-goddess of Šahhaniya point to the existence of a geographical cluster between these cities. A deity, Zithariya of Ušša, might also be attested by KUB 54.70 as referring to an oath-taking ceremony of Urhi-Tešub concerning the city of Ušša (Mouton 2014: 580, text 21). KBo 4.13, which describes a sequence of the great state cultic festival of AN.TAH.ŠUM (Forlanini 2007b), includes the “gods of the city of Ussa” among the divine recipients: “One sheep (for) the gods of the city of Ussa”.<sup>43</sup>

In Hittite accounts of vows, both the king and the queen stay at Ušša and receive message-dreams from unknown deities and/or pronounce vows to a “mother-goddess” (DINGIR.MAH) and the deity Hašulathi (Forlanini 2015a: 30),<sup>44</sup> most probably in the context of divinatory incubation rituals performed during cultic festivals (Mouton 2007: 45). Ušša is indeed the theater of cultic events, as illustrated by one religious text (KBo 11.5 iv 32; Lebrun 1996: 48). One should also add KBo 31.169, another fragment reporting vows (briefly mentioned by de Martino 2012: 215). In this fragment, someone (probably the king or the queen) has performed two festivals in Ušša, among which being the festival of release. The text states, “I have celebrated two festivals, (namely) the festival of release [and] the festiv[al of ...] for the deity in the city of Ušša.”<sup>45</sup> The same text probably also describes a vow that the queen pronounced to the goddess *IŠTAR* of the city of Šullama(?) in a fragmentary context.<sup>46</sup> Ušša also hosted important events for the Hittite state, such as an oath-taking ceremony of SAG officials during Tudhaliya IV’s reign (Miller 2013: 63). Thus, although located at the frontier of the Hūlaya river land – itself in large part included in the kingdom of Tarhuntašša – Ušša still belonged to the Great King of Hattuša during Tudhaliya IV’s reign.

Since Ušša is associated with Lānda, itself a neighbor of Lušna, and since Ikkuwaniya is not mentioned as a frontier-city in the Tarhuntašša treaties, Forlanini (2013a: 17 fn. 73) believes that Ušša should be located south of Ikkuwaniya/Konya, not far from Lānda and Lušna. Ušša is equated by Forlanini (1998a: 226, 2007b: 273 fn. 54) to the archaeological site of Karahöyük, lying about 7 km southwest of the center of modern Konya. Karahöyük was excavated by Sedat Alp from 1953 until 1982 (Alp 1993). It is a very large site (39 ha; Glatz 2011: 887). Alp iden-

<sup>43</sup> KBo 4.13 i 48 (Forlanini 2007b: 261): 1 UDU DINGIR<sup>MEŠ</sup> URU *Ušša* where the rare sign SA is used instead of the usual ŠA.

<sup>44</sup> KUB 50.91 iv 9’-13’ might also mention a dream that a high-ranking character would have seen in Ušša: [Ü-TUM] INA URU *Ušša* IMUR <sup>1</sup>Puttin GIM-an [...]...ket TUG<sup>HÁ</sup>=ya GIM-an UL SIxSÁ-anda [...] <sup>1</sup>Pu]ttiš GIM-an paprantit [...] *išhišket* MUNUS<sup>2</sup> ENSI punuššir [...] <sup>1</sup>šinapši URU *Ušša*=ya SIxSÁ-at “He/she saw [a dream] in the city of Ušša: As [...] (v. in preterit 3<sup>rd</sup> pers. sg.) lady Putti, as the clothes (were) not determined (and) as [...] lady Pu]tti has bound [...] with impure [...], they asked the ENSI female diviner and it was determined that [...] in the *šinapši*-building (of) the city of Ušša.” Reading by A. Mouton after personal collation of the online photograph of the tablet. Note the probable mention of a *šinapši*-building, a cultic building usually associated with Kizzuwatnian rituals (Gentili Pieri 1982). This would illustrate the eventual expansion of Kizzuwatnian religious influence over the Luwian Lower Land.

<sup>45</sup> KBo 31.169 Obv. 4’-5’: 2 EZEN<sup>MEŠ</sup> EZEN<sub>4</sub> parā tarnummaš EZE[N<sub>4</sub> ...] ANA DINGIR-LIM INA URU *Ušša* iyanun.

<sup>46</sup> KBo 31.169 Obv. 9’: MUNUS.LUGAL=za=kan INA URU *Ušša* ANA <sup>D</sup>*IŠTAR* URU *Šu*[llama<sup>2</sup> kiššan<sup>2</sup> IKRUB<sup>3</sup>] “The queen [has pronounced the following vow] to *IŠTAR* of the city of Šu[llama(?)] in the city of Ušša”. This would constitute the second link between the Išuan city of Šullam(m)a and Ušša, as the deity Tarupšani of Ušša is celebrated in Šullama by Šaušga-ziti in KUB 54.1 ii 8: see Archi, Klengel 1985: 55.



tified 27 levels of settlement and 11 cultural periods from the Late Chalcolithic to the Middle Bronze Age (the period of the Old Assyrian colonies). The size of the site is important for the levels dated from the Early Bronze Age and the Middle Bronze Age by Alp. Hittite ceramic was also found in Karahöyük, according to Arık (1956: 17; called Karahöyük I).

After having suggested an equivalence of Karahöyük = Ušša, Forlanini (2008: 66) suggested identifying Karahöyük with Hittite Hurutta (Old Assyrian Hudurut and Classical Krotā), whereas Ušša would be in Kadınhanı, northwest of Konya (Forlanini 2008: 67). However, this contradicts his later statement deduced from the association Ušša – Lānda – Lušna in the Hittite texts. Hawkins (1995: 50-1) notices that § 23 of the BT (Otten 1988: 22-3) enumerates the neighboring lands of the kingdom of Tarhuntašša, namely the land of Hatti, Mount Huwatnuwanta, Kizzuwatna, Hurniya, Ikkuwaniya and the land of Pedašša. According to him, these areas roughly correspond to the main sections of the frontier zones described in the same text. Indeed, the land of Hatti corresponds to Section 7, Mount Huwatnuwanta corresponds to Sections 3 and 4, Kizzuwatna corresponds to the area of Šaliya (after Section 9), Hurniya could correspond to the area of Zarwiša (before Šaliya), Ikkuwaniya would correspond to the area of Ušša (Sections 5 and 6?) and the land of Pedašša corresponds to Sections 1 and 2. This equivalence would illustrate the proximity of Ušša with Ikkuwaniya. Note that Hawkins (1995: 51) first thought that Karahöyük was not Ušša but Purušhanda<sup>47</sup> before changing his mind (Hawkins 2015: 6). Forlanini (2011) also located Ušša back at Karahöyük. A location south of Konya would better fit the association documented by the texts between Ušša and Zarwiša near Mount Šarlaimmi.

Following the supposed frontier of the Hūlaya river land east of Mount Huwatnuwanta (Aladağ?) according to the Tarhuntašša treaties (Sections 3 through 5), and taking into account the absence of any reference to Ikkuwaniya in those texts, Karahöyük seems to constitute the best candidate for Ušša, as the frontier probably runs immediately south of it (see below, p. 97 *sub* Zarata).

### **Lānda and Lušna**

Lānda (*RLA* 6: 487-8; *RGTC* 6: 242-3; *RGTC* 6/2: 93; Lebrun 2011) is described in the Telepinu edict as a place administered by a son of Labarna (I), just like Hupišna, Tuwanuwa, Nenašša, Zallara, Paršuhanta (Purušhanda) and Lušna, alongside which it was mentioned (Hoffmann 1984: 14-5). It also appears in an inventory text (Siegelová 1986: 320-1). Lānda would lie in the southern vicinity of Ušša (Forlanini 1998a: 226) together with Lušna. Indeed, this city is mentioned right before Lušna in a tablet-catalog listing cultic festivals (KUB 17.19; Dardano 2006: 222). However, contrary to Forlanini's (2011) description, the text in which the two city names are listed one after the other does not mention Ušša.

The pantheon of Lānda is described in Muwatalli's prayer (Mouton 2016: 636-7, § 48), which mentions the "lord of Lānda" in a prayer of Muṣili II (Singer 2002: 64) and "the two lords of Lānda" in several treaties. The treaties between Šuppiluliuma I and Šattiwaza

<sup>47</sup> Barjamovic 2011: 407-8 suggests that Purušhanda lies at Üçhöyük near Bolvadin, which is much further west. A location this far west is surprising to us at first glance.

of Mittani mention “the lady of Lānda” and the deity Kuniyawanni of Lānda right after the goddess Huwaššanna of Hupišna (Beckman 1996: 43 and 47) whereas the other treaties, namely that between Šuppiluliuma I and Aziru of Amurru (Beckman 1996: 36), that between Šuppiluliuma I and Tette of Nuhašše (Beckman 1996: 53), and that between the same Hittite king and Tuppi-Tešub of Amurru (Beckman 1996: 59), as well as the treaty between Muršili II and Niqmepa of Ugarit (Beckman 1996: 63), mention the same deities of Lānda but insert Tapišuwa of Išhupitta between Huwaššanna and the lady of Lānda. A ritual of the Old Woman Tunnawiya comprises an incantation addressed to a “great deity” from Lānda (Hutter 1988: 38-9). Furthermore, a Storm-god of the city of Lānda is mentioned in a fragmentary context of a cultic inventory as a divine beneficiary (KUB 57.88 i 4'). According to Forlanini (1998a: 226 fn. 24; 2013a: 17 fn. 71), the deity Kun(n)iyawanni would have originated in Ikkuwaniya because of its name. The presence of this deity in the pantheon of Lānda would illustrate the relative proximity of this city with Ikkuwaniya.

The name Lānda has been often compared to classical Laranda (modern Karaman) since Forrer (1926: 41). This comparison has been contested by Ünal (*RLA* 6: 488) and Forlanini (1990: 121), the latter emphasizing the existence of a Hittite Laranta. Laranta is indeed much closer to classical Laranda than Lānda. From this, we deduce that Lānda is probably south of Ikkuwaniya and Ušša, and close to Lušna, but cannot be identified with modern Karaman. Forlanini (1990: 121) suggests placing Lānda near Karadağ and southeast of modern Çumra. However, one could also expect Lānda to be closer to Lušna.

Lušna (*RLA* 7: 180; *RGTC* 6: 252; *RGTC* 6/2: 97) already belonged to the kingdom of Hatti during the Ancient Kingdom, as shown in Telepinu's edict (see above, p. 95 *sub* Lānda and Lušna). In the land donation to Šahurunuwa, Lušna is mentioned relatively near the mention of Šaliya, among other cities (Imparati 1974: 26-7). A “house of the city of Lušna” is referred to in a fragmentary text (KBo 54.278 Obv. 4'; Groddek 2010: 174). Lušna is also mentioned in a tablet-catalog in association with a festival in a fragmentary context (Dardano 2006: 255). Another tablet-catalog, namely KUB 17.19, refers to festivals celebrated in honor of a solar deity of Lušna (<sup>P</sup>UTU-liya; Dardano 2006: 222). The (same?) solar deity of Lušna might also appear in a fragmentary passage of a religious text (KBo 7.66 iii? 6': <sup>URU</sup>Lūšnaš <sup>P</sup>UT[U]; Starke 1985: 360; van Gessel 1998: 888).

Although not mentioned in the Tarhuntašša treaties, it is important to note that Lušna seems to constitute one of the rare fixed points on the map of the region. Indeed, its identification with classical Lystra – modern Hatunsaray – since Forrer (1926: 42) seems generally acknowledged (Forlanini 2015a: 31 fn. 29): Hittite Lušna > Classical Lystra is phonetically comparable to Hittite Hupišna > Classical Kybistra. A höyük with Late Bronze-Age ceramic material has been observed 1 km north of Hatunsaray (Zoldera/Zoldura Höyük, Bahar 1998b: 200; Bahar and Koçak 2004: 20; Karağuz 2003: 7);<sup>48</sup> this mound could be the Hittite city of Lušna. The identification Zoldera Höyük = classical Lystra was supported by Sterrett's discovery of a Latin inscription (Ramsay 1890: 332). There was probably a Hittite road going south from Ikkuwaniya to Lušna, thus possibly passing Ušša and Zarata. Lānda could lie somewhere

<sup>48</sup> The TAY website mentions only Early Bronze-Age, Iron-Age and Classical ceramic material (<http://www.tayproject.org/> *sub* Zoldura).

along this road, between Ušša and Lušna. A second mound with Hittite ceramic material is mentioned by Arık (1956: 17) and Bahar (1998b: 201; Bahar and Koçak 2004: 50, table M) at Pamukçu, some 18 km south of Konya, on the same road with a caravanserai (Pamukçu hanı). If the presence of Hittite ceramic is confirmed, this Pamukçu höyük could be Lānda, unless it is Bayat Höyük, which lies further south along the same road (Bahar 1998b: 201). However, there seems to be no Late Bronze-Age ceramic at Bayat Höyük (Bahar, Koçak 2004: 50, table M).

### Zarata

The Tarhuntašša treaties describe this city as the frontier-city of Ušša and belonging to the Hūlaya river land (Section 5). These are the only two references to Zarata in the Hittite texts (RGTC 6: 494; RGTC 6/2: 193).

If Ušša is Karahöyük as advocated above, one could suggest identifying Zarata with Hatıp, as this site displays a hieroglyphic inscription which probably served as a frontier marker to the land of Tarhuntašša (*pace* Forlanini 1998b: 220; Hawkins 2015: 6). Indeed, the inscription states: “Kurunti(ya), Great King, [Hero], son (of) Mu(wa)tal(l)i, Great King, Hero”.<sup>49</sup> Furthermore, the medium-sized site of Hatıp (Dinçol *et al.* 2000: 2) does not seem at first glance to correspond to an important city such as Tarhuntašša (*pace* Dinçol *et al.* 2000: 2; Karauğuz 2013: 43), contrary to what has been suggested (Bahar 2005; Bahar *et al.* 2007). However, only an extensive archaeological dig would provide reliable information about this site, which has only been surveyed by Arık (1956: 17) and Bahar (1998c, 2011). A city rarely mentioned in the texts and therefore probably of lesser importance, such as Zarata, seems *a priori* to fit better.

### Mount Kuwaliyatta/Kuwakuwaliyatta, Šuttašna and Šantimma

According to Forlanini (1998a: 226), Mount Kuwaliyatta (RGTC 6: 232-3; RGTC 6/2: 89) would be between Konya and Aksaray because it was associated with Durmitta. However, this supposed association is not corroborated by the text used as evidence by Forlanini (1985: 51), namely KUB 51.2 Obv. 10', where one should read <sup>10</sup>Šu'-wa-li-ya-at-ti rather than Kuwaliyatti, as read by Forlanini (after collation of the online photograph; see also Wegner 2002: 253). Furthermore, if the Hatıp inscription is indeed a frontier marker of the kingdom of Tarhuntašša, and if we keep in mind the absence of Ikkuwaniya among the frontier-cities of the Tarhuntašša treaties, we do not expect the northeastern frontier of the Hūlaya river land to extend further than Konya unless, as suggested by Forlanini (1998a: 230), Ikkuwaniya/Konya constitutes an enclave inside the kingdom of Tarhuntašša. Garstang and Gurney (1959: 73) identified Mount Kuwaliyatta with Doğrabel dağ. Freu (2009: 49) suggests equating Mount Kuwaliyatta with Meke dağı, along with Osmancık dağı. However, Meke dağı (also called the Karaca dağ) and Osmancık dağı (also called the Karadağ) are separated from each other by about 60 km of valley, so they can hardly be seen as a single mountainous unit. Furthermore,

<sup>49</sup> CERVUS<sub>2</sub>-ti MAGNUS.REX [HEROS] mu-tà-'li' MAGNUS.REX HEROS FILIUS (Ehringhaus 2005: 101-7).

Meke dağı might rather correspond to the MONS.ASCIA of the EMİRGAZİ altars, which themselves are on the slopes of Arısama dağı (probably MONS.MENSA; Hawkins 2015: 4).

In the Tarhuntašša treaties, Mount Kuwaliyatta<sup>50</sup> appears in Section 6 after Ušša. The texts mention that it has a common frontier with the Hūlaya river land. There are two main possibilities: 1) either Ikkuwaniya is an enclave within the kingdom of Tarhuntašša, or 2) the continuation of the Tarhuntašša kingdom's frontier runs south of Konya. In case 1, Mount Kuwaliyatta could lie east or northeast of Konya. In case 2, it should be south or southeast of Hatıp. Because of the continuation of the Tarhuntašša treaties, which describe places as far as Mount Šarlaimmi near Hupišna (Ereğli), case 1 is preferable, in which case the frontier of the Hūlaya river land might run northeast of Konya. Han dağı, situated at Eğribayat (about 36 km northeast of Konya), along with its eastern continuation heading north (Beyhasanlı dağı) could constitute a good candidate for Mount Kuwaliyatta (as also suggested in Forlanini 2009: 69), as it naturally separates the Konya plain from the north and also cuts that northern area into two. The western part of it could correspond to the eastern extremity of the land of Ušša/Ikkuwaniya, whereas the eastern part would be the area of Wanzataruwa (itself described as belonging to the land of Hatti in Section 7 of the Tarhuntašša treaties). This is a simple assumption, as we do not know the exact extent of the “land of Ušša” during the imperial period. Therefore, one cannot exclude a larger expanse of that land toward the east.

In the Tarhuntašša treaties, Šuttašna and Šantimma are described as frontier-cities separating Mount Kuwaliyatta from the Hūlaya river land (Section 6). However, neither Šuttašna (RGTC 6: 371; RGTC 6/2: 150) nor Šantimma (RGTC 6: 345; RGTC 6/2: 138) seem to be mentioned anywhere else in the Hittite texts. The area between modern Karaömerler (on the southern slopes of Han dağı) and modern Eğribayat (on the eastern slopes of the same mountain) could be the place where Šantimma and Šuttašna should be looked for. Note that Bahar (1998b: 203; Bahar and Koçak 2004: 22) mentions a höyük at Eğribayat where he identified Late Bronze-Age ceramic material. Note also that the late-antique station of Caballucome was precisely located in this area, where a caravanserai (Kulak Murat hanı) still attests the passage of a road during the medieval period. That same road is also attested for the classical period. Close to that road is the site of Toprakkale, which might be classical Senzousa. Forlanini (1988: 151) suggested equating classical Senzousa with Hittite Šienzana, a city of the Lower Land.

### **Wanzataruwa and Kunzinaša**

The Tarhuntašša treaties mention Wanzataruwa twice. First, this city is described as having a common frontier with the land of Ušša, but then the land of the Hūlaya river is not mentioned (end of Section 5), so Wanzataruwa probably lies northeast of Ušša and of the Hūlaya river land. Then Wanzataruwa is described as being in Hatti, with Mount Arlanta and the city of Alana as its frontiers with the Hūlaya river land (Section 7). Between Section 5 and Section 7, Mount Kuwaliyatta is mentioned (Section 6), so that Wanzataruwa must be in close proximity of that mountain. There seems to be no other reference to Wanzataruwa

<sup>50</sup> Note that Mount Kuwaliyatta/Kuwakuwalyatta is probably distinct from Mount Kuwakuwaluwanta attested in the Yalburt hieroglyphic inscription (Gander 2010: 92).

outside the Tarhuntašša treaties (RGTC 6: 474; RGTC 6/2: 186). If Mount Kuwaliyatta is Han dağı and its continuation toward the east and the north, as suggested above, Wanzataruwa could be somewhere near modern Yenikuyu, some 12 km north of Ballık dağı. Not far from Yenikuyu, one can find the Roman town of Zembruta(?). Its location could theoretically fit that of Wanzataruwa. Note that this site lies on a road at least in the medieval period, as it also hosts a caravanserai (Zulmandar hanı).

Kunzinaša is mentioned along with Wanzataruwa in Section 7 of the Tarhuntašša treaties. These seem to be the only attestations of this toponym (RGTC 6/2: 85). The city should be north of Mount Arlanta, in the Hatti land. If Mount Arlanta is Ballık dağı (see below, p. 99 *sub* Mount Arlanta), Kunzinaša could be near modern Gimir and the classical site of Perta. The höyük that might correspond to classical Perta has been observed on the western edge of modern Obruk, some 7.5 km northeast of the eastern side of Ballık dağı; ceramic material from prehistoric to Roman times has been identified at the site (Voigtländer 1975: 94).

### Mount Arlanta and Alana

Mount Arlanta clearly marks the frontier of Wanzataruwa with the Hūlaya river land in the Tarhuntašša treaties (Section 7), the city of Wanzataruwa belonging to the land of Hatti. The fact that this mountain separates the land of Hatti from the Hūlaya river land is emphasized by the mention of the two lands sharing water in the treaties. The Tarhuntašša treaties seem to constitute the only two attestations of this toponym (*RLA* 1: 151; RGTC 6: 37-8; RGTC 6/2: 12).

Mount Arlanta could be Melendiz dağı, according to Forlanini (1998a: 226). This mountain lies north of Niğde (classical Nakida, Hittite Nahita). Garstang and Gurney (1959: 71) suggested that Arlanta was rather Karaca dağı (or Meke dağı), and that the “water” mentioned in the Tarhuntašša treaties referred to a lake on top of the mountain (in that case Meke gölü). This interpretation is quite fragile, as a lake is generally designated with the Hittite *luli*-, or in the case of a very big lake, maybe with the Hittite *aruna*-. As for Mount Arlanta’s relationship with the city of Arlanduya (Götze 1930: 111; Garstang and Gurney 1959: 72), the quasi-homophony between the two does not seem to us to constitute an unquestionable argument either. If Mount Kuwaliyatta is Han dağı and its continuation toward the east and the north, including Beyhasanlı dağı, Mount Arlanta could be Ballık dağı, located immediately east of this mountainous ensemble. Indeed, as the Tarhuntašša treaties mention Wanzataruwa both before and after Mount Kuwaliyatta, they imply a close proximity between this city and the mountain. As Mount Arlanta is described as a frontier of Wanzataruwa, this second mountain should be very close to Mount Kuwaliyatta. Ballık dağı fits this requirement, as it touches the eastern side of the Han dağı-Beyhasanlı dağı ensemble.

In the Tarhuntašša treaties, Alana is associated with Mount Arlanta as a frontier between Wanzataruwa and the Hūlaya river land (Section 7), but on the side of the latter. These are the only two attestations of this toponym (*RLA* 1: 67; RGTC 6: 5; RGTC 6/2: 2). The city might be searched for in the area of modern Zencirli (classical Salarama), where a caravanserai (Zincirli hanı) attests the passage of a road in medieval times.



### Šinnuwanta, Mount Lūla and Ninainta

In the Tarhuntašša treaties, Šinnuwanta seems to be separated from the Hūlaya river land by Mount Lūla (Section 8). Šin(n)uwanta is also mentioned in the royal annals CTH 13 in association with the “man of Purušhanda”, along with Arimmatta and Zunahara (de Martino 2003: 142-5). Zunahara is a Kizzuwatnian city that Forlanini (2015b: 57) identified as classical Mopsouestia, modern Misis/Yakapınar (southeast of Adana). Šinnuwanta (RGTC 6: 358-9; RGTC 6/2: 146) is also mentioned alongside Parha (classical Perge) and the Hūlaya river (KBo 9.99:1’-3’; Otten 1988: 37) in a fragmentary tablet. Note that this tablet describes a religious ceremony which at least partly takes place in Ninainta (KBo 9.99:9’: *INA*<sup>URU</sup> *Nīnāinda pētummeni* “we bring to Ninainta”), the city described in the Tarhuntašša treaties as being on the other side of Mount Lūla as Šinnuwanta. Šinnuwanta might also be mentioned with Zunahara and Adaniya (modern Adana) in a fragment of Arnuwanda I’s annals (KUB 23.21 ii 4’-7’; Carruba 1977: 166-7; Forlanini 2013a: 5). Someone offers a toast to Mount Lūla during a religious ceremony involving “dog-men barking” (KUB 40.10 Obv. 4’-5’; Otten, Rüster 1978: 277-8), and a billy goat might be sacrificed to Mount Lūla during another(?) cultic event also involving the deity Pirwa (KBo 64.149:5’-6’).

The city of Šinnuwanta has been compared with the modern village of Sinandı, lying about 15 km southeast of Ereğli (Forrer 1926: 28), and Mount Lūla would be located where the Byzantine site of Loulon stood, at modern Hasangazi itself, about 12 km west of Ulukışla (Garstang and Gurney 1959: 71; Forlanini 1988: 133-4). However, one of these two identifications has a flaw: if Mount Lūla is near the site of Loulon, it can hardly serve as a frontier to Sinandı, which is some 41 km away. One could also think that, if the frontier was passing in the area of Byzantine Loulon, Hittite Dunna (classical Tynna, modern Zeyve höyük, Porsuk) would be mentioned, as it lies very close to the purported frontier. However, it is possible that Dunna was not mentioned because it was not at the frontier itself, while also not being far from it, just like in the case of Ikkuwaniya. A section of the UT actually illustrates this, as it refers to something located at Dunna that belongs to the kingdom of Tarhuntašša (UT i 36’; van den Hout 1995: 32-3). Forlanini (1988: 133) compares Šinnuwanta with the toponym Sinniyari, which appears in a text of the hišuw festival. He also thinks that Šinnuwanta was on the road leading to the Cilician Gates on one side, and to Tuwanuwa on the other (Forlanini 2013a: 15 fn. 65), and that it was inside a corridor running north of Kizzuwatna and in the Göksu valley (where the haven of Ura was probably located), also belonging to the Great King of Hattuša (Forlanini 2013a: 25 fn. 119). Although the equivalence Hittite Šinnuwanta = modern Sinandı (but its late classical name is probably Sannabadae) seems attractive, it should probably be abandoned. Indeed, when we study the Roman roads running in this region, the Byzantine site of Loulon lies along a road leading from the Cilician gates through classical Podandos (probably Hittite Paduwanda, modern Pozantı), with one branch leading to Tyana (modern Kemerhisar, Hittite Tuwanuwa) and a second branch to Tynna (Hittite Dunna), but this is not the case with Sinandı. Therefore, we suggest that Mount Lūla could indeed be the mountain where Byzantine Loulon lies, whereas Šinnuwanta should be south of it, maybe at modern Çiftehane (classical Aquae Calidae), where two caravanserais attest the continuous use of the same road during the medieval period. At Çiftehane, ceramic potsherds possibly dating from the Early Bronze Age were found (BIAA.658.3 (2490)).

Ninainta (RGTC 6: 282; RGTC 6/2: 111) is described as being on the side of the Hūlaya river land at Mount Lūla (Section 8). The only other occurrence of this city name appears in a religious text where Šinnuwanta, the Hūlaya river and Parha are also mentioned (see p. 100 above). As Ninainta is on the Hūlayan side of Mount Lūla, one might search for it in the area of modern Eminlik, where a late classical milestone was uncovered (Métivier 2005: 64-5).

If Mount Lūla is indeed the mountain of Byzantine Loulon, one should note a possible gap in the description of the eastern frontier of the Hūlaya river land in the Tarhuntašša treaties. Section 7 described the frontier area of the land of Ušša and Section 8 jumps directly to Mount Lūla. Therefore, we cannot specify the exact location of the northeastern section of the frontier. One element to consider in order to partly fill this gap is the mention of the salt sources at Šarmana, Pantarwanta and Mahrimma that are said to belong to the king of Tarhuntašša, although these seem to be at the frontier of the Hūlaya river land (UT i 33'-35'; van den Hout 1995: 30-3 and BT ii 4-15; Otten 1988: 16-7). The main salt sources of the region are Tuz gölü and the salt lakes at Karapınar (see above, p. 85-86 *sub* Tarhuntašša treaties and other texts). Tuz gölü seems too far north to be the northeastern frontier of the Hūlaya river land; however, the salt lakes of Karapınar would fit rather well. Therefore, we suggest that the cities of Šarmana, Pantarwanta and Mahrimma should be located near Karapınar, where the northeastern part of the frontier of the Hūlaya river land should be. Ali tepesi is one example among others of a mound with Late Bronze Age ceramic material at Karapınar according to Bahar and Koçak (2004: 52, table O).

### **Zarnuša/Zarnušašša and Uppaššana**

The Tarhuntašša treaties indicate that Zarnuša/Zarnušašša is separated from the Hūlaya river land by the city of Harmima (Section 9). They are the only attestations of this toponym (RGTC 6: 495; RGTC 6/2: 193).

In the BT, Uppaššana constitutes the new frontier-city between Zarnuša and the land of the Hūlaya river, Uppaššana belonging to the latter (Section 9). Later in the same text, Tudhaliya specifies that the inhabitants of Uppaššana were previously vassals of his father Hattušili, although the city was already considered to be in the kingdom of Tarhuntašša (Otten 1988: 14-5, § 9). Forlanini (1998a: 227) places Uppaššana near Bozdağ, near Karapınar, which lies east of Konya. Furthermore, he considers Uppaššana and Ippaššana to be one and the same city. Ippaššana, described in the Apology of Hattušili III as an “empty land” (Otten 1981: 10-1), would be west of Tuz gölü, according to him at Cihanbeyli (Forlanini 1979: 185). This localization is hardly compatible with Section 9 of the Tarhuntašša treaties, which should correspond to the southeastern section of the frontier of the Hūlaya river land according to clockwise order. Therefore, we should probably distinguish Uppaššana from Ippaššana. There seems to be no other mention of Uppaššana itself in the Hittite texts (RGTC 6/2: 179).

As Zarnuša, Harmima and Uppaššana appear in Section 9 of the Tarhuntašša treaties after Šinnuwanta and Mount Lūla (Section 8), and before Zarwiša and Mount Šarlaimmi, one should probably look for those cities between modern Ulukışla and modern Ereğli. Note that there is a höyük with Early Bronze-Age material at Çayhan located in this area and possibly on

an ancient road (Bahar and Koçak 2004: 67). However, mounds with Late Bronze-Age pottery have also been observed in this area (Maner 2015: 30-1), such as Hacımemiş höyük (about 4 km east of Ereğli), Bağırtlak pınarı (at Kuskuncuk), or Bolluca höyük (where Maner found a bronze figurine of a Hittite storm-god; Maner 2016: 232) which lie on what could be secondary roads toward Çayhan.

### Zarwiša and Mount Šarlaimmi

The Tarhuntašša treaties mention Zarwiša and Mount Šarlaimmi right after Zarnuša and Uppaššana in Section 9. Zarwiša (RGTC 6: 496; RGTC 6/2: 193) is mentioned between Hurniya and Šahhaniya in Muwatalli's prayer (Mouton 2016: 632-3, § 38). In that text, Zarwiša's pantheon is briefly described: besides a Storm-god, the deity Nawatīyal(l)a is also viewed as an important deity of the city. Nawatīyal(l)a is also worshipped in Hurniya (see above, p. 93 *sub* Hurniya), which might illustrate a relative proximity between Zarwiša and Hurniya. Zarwiša also occurs in the form of Zarruwiša in a plague prayer of Muṣili II: its gods are among the addressees of the Great King's prayer (Rieken *et al.* 2016, § 1). An inventory text also refers to woollen items possibly from several inhabitants of Zarwiša (Kořak 1982: 116).

Because of its association with Mount Šarlaimmi and Šaliya in the Tarhuntašša treaties, Forlanini (2011: 34) thinks that Zarwiša should be east of Šaliya and south of Mount Šarlaimmi. He suggests locating it near modern Ayrancı, about 46 km northeast of modern Karaman. The Tarhuntašša treaties do not allow us to deduce the position of Zarwiša in relation to Šaliya. However, if the clockwise organization of the description is still valid, that would mean that Zarwiša is north of the "High Mountain", as we seem to follow the eastern border of the kingdom of Tarhuntašša in this passage. Forlanini (2013a: 15 fn. 65) thinks that Zarwiša was on the road from Ikkuwaniya through Hurniya to Hupišna and the Cilician Gates. The Hittite texts seem indeed to indicate a relative proximity between Hurniya, Zarwiša and Hupišna, with the city of Šahhaniya also in the vicinity.

According to the order followed in the Tarhuntašša treaties, Mount Šarlaimmi itself should be near the "High Mountain" and the city of Šaliya, as already noted by Garstang and Gurney (1959: 72). These authors also notice the association of Mount Šarlaimmi with Hupišna/classical Kybistra (at modern Ereğli) in Muwatalli's prayer: Mount Šarlaimmi (RGTC 6: 353; RGTC 6/2: 141-2) is described among the main deities of this city together with the goddess Huwaššana and the local Storm-god and war-god (Mouton 2016: 630-1, § 32). Mount Šarlaimmi has its own *huwaši*-stone in a text describing a festival in honor of Huwaššana (Lombardi 1998: 68 fn. 12). Because of its presence in the pantheon of Hupišna, Forlanini (1998a: 227) believes that Mount Šarlaimmi should be a big mountain visible from that city. Several mountains correspond to this description: a peak of the Taurus, Karaca dağ near Karapınar and north of the Bolkar dağları (this is the choice of Yakar 2014: 509), or further away, Karadağ. Otten (1988: 35) suggests an equation of Mount Šarlaimmi = Bolkar dağları, whereas Garstang and Gurney (1959: 72) preferred to identify Mount Šarlaimmi with İvriz dağı, which is a peak of the Taurus range running northwest toward Ereğli immediately southwest of it; this solution is also chosen by Hawkins (1995: 51 fn. 171) and Freu (2009: 48). The latter specifies

that Karaca dağ is probably too far north to constitute a good candidate for Mount Šarlaimmi. Similarly, the Bolkar dağları seem too far south to constitute a suitable frontier-zone to Zarwiša, which is supposed to be somewhere between Hurniya and Hupišna. Therefore, we believe that Mount Šarlaimmi could be the İvriz dağı, which would allow the placement of Zarwiša northwest of Ereğli/Hupišna, between modern Kesmez (classical Thebasa; about 30 km northwest of Ereğli) and Ereğli. Börker-Klähn (2007: 92 and 106-7) suggests identifying classical Thebasa with Hittite Tiwanzana, which appears in only one text with Tuwanuwa. For this reason, one might look for Zarwiša further south, maybe at modern Sazgeçit – where there is a caravanserai (Hortu hanı) – some 11 km northwest of Ereğli. As for Šahhaniya, which is mentioned between Hurniya and Zarwiša in Muwatalli's prayer, it could be near Karapınar (about 48 km northwest of Ereğli), where several archaeological mounds were observed (Karağuz 2005: 166). In the same area should also be found the cities of Šarmana, Pantarwanta and Mahrimma, which are described as being near salt sources in the Tarhuntašša treaties (see above, p. 101 *sub* Šinnuwanta).

### The “High Mountain” and Šaliya

The identification of the “High Mountain” (*parku-* HUR.SAG) mentioned in the two Tarhuntašša treaties is still debated. According to these texts, Šaliya lies between this mountain and the land of Hatti, Šaliya belonging to the latter. Thanks to the Šunaššura treaty (CTH 41, Beckman 1996: 20, § 61), Šaliya (RGTC 6: 334; RGTC 6/2: 135) is also known to be located at the frontier with Kizzuwatna during the reign of Tudhaliya I. Therefore, it should be located somewhere southeast of the Lower Land. After having located it south of the Taurus at Arslanköy, about 39.5 km northwest of modern Mersin (Forlanini 1998a: 227), Forlanini relocated Šaliya north of the Taurus (Forlanini 2013a: 15), although his suggestion to place it west of Hupišna is debatable.<sup>51</sup> Otten (1988: 36) thought that Šaliya was in the region of modern Pozantı (about 36 km southeast of modern Ulukışla). Further south, Houwink ten Cate (1992: 252) suggests that the Limonlu çayı (ancient Greek Lamos, Hittite Lamiya) could constitute the southern topographical area of the frontier between the land of Tarhuntašša and Kizzuwatna. This suggestion has been contested by Melchert (2007: 510) and it is indeed hardly compatible with the fact that the haven of Ura (probably modern Silifke) was probably not part of the kingdom of Tarhuntašša.

Maybe the Göksu river (classical Calycadnos) demarcated part of the frontier of the kingdom of Tarhuntašša, as two reliefs at Keben (some 17.5 km northwest of Silifke) and at Ermenek (about 96 km northwest of Silifke, deeper in the Göksu valley; see Jasink 2003: 272-3 fn. 14) could illustrate (*pace* de Martino 1999: 298-9). Keben lies on a Roman road that is still visible according to Karağuz (2005: 19-20). This road extended from Mut (classical Claudiopoli) to Ermenek (classical Germanicopolis) through Balabolu (Adrassos) and through Derinçay, where a Roman bridge was found (Elton 2006: 335). In the valley of the Göksu river also lies the site of Kilise tepe, whose Hittite occupation is well-known (Symington 2001). This

<sup>51</sup> Contrary to what he writes (Forlanini 2013a: 15 fn. 64), the sequence of the Tarhuntašša treaties is not from east to west but rather, probably, from north to south.

small mound is on the Roman road linking Silifke to Karaman. What could be an administrative building with a cultic space was unearthed there in the Hittite level (Postgate and Stone 2013). Kilise tepe could constitute a frontier-city of the Hūlaya river land. Two other sites with Early Bronze-Age ceramic material were found in the same area: Çömlek tepe in the Göksu valley and on the road toward Ermenek, and Kıran kayası on the road toward Karaman (Elton 2008: 244). At the junction of the Ermenek çayı with the Göksu river, and probably on an ancient road linking Mut to Ermenek, the site of Attepe is also rich in Late Bronze-Age ceramic, among these being a Hittite libation vessel (Şerifoğlu 2015: 44-5). Opposite of Attepe, on the northern side of the Göksu river, also lies the site of Örentepe, whose pottery dates from the Early Bronze Age to medieval times (Şerifoğlu 2016: 265). The site was already mentioned by French, just like Attepe (French 1965: 180). Furthermore, Şerifoğlu (2015: 45), and French (1965) before him, also mention the site of Çingentepe, where ceramic material dating from the Early Bronze Age to the medieval period was identified. This site is situated at the junction of the Göksu river with the Kurtuyu in the southern vicinity of Kilise tepe, and on the same ancient road as Maltepe, another site with Late Bronze-Age potsherds (French 1965). This is the area where Forlanini (1988: 146-7) places Zallara. Further south on the same road linking Silifke to Karaman, the mound of Damtepe at Evkafçıflığı, about 3 km northwest of Kargıcak, also displayed pottery dating from the Early Bronze Age to the Byzantine period (Şerifoğlu 2015: 44). The area of the Göksu valley could very well constitute the area where Tarhuntašša itself was located (*pace* Hawkins 1995: 52 and 56), and the frontier partly following the Göksu valley would have initially separated the Hūlaya river land from the land of Tarhuntašša, when the former did not yet belong to the latter.

Yakar (2014: 503) suggests equating the “High Mountain” with the Bolkar dağları belonging to the Taurus range (he is thus following Garstang and Gurney 1959: 72). The identification of Mount Šarlaimmi with the “High Mountain” suggested by Lombardi (1998: 79) looks unconvincing to us, as that would imply that the designation of the mountain had been changed within the same text. However, what the land donation to Šahurunuwa calls the “great mountain” (HUR.SAG RĀBĪ; Imparati 1974: 26-7) after Šaliya, and before Mount Huwatnuwanta, could be the same “High Mountain”. Note, however, that the designation “great mountain” is certainly not exclusive to one particular mountain, as it is also given to Karadağ (<sup>(DEUS)</sup>MAGNUS.MONS) on the hieroglyphic inscription KARADAĞ 1 of Great King Hartapu, son of a Muršili (Hawkins 1992: 265). As Šaliya is the frontier-city of Kizzuwatna, the most logical choice for the “High Mountain” is the Bolkar dağları, which comprises the highest peak of this part of the Taurus (*pace* Dinçol *et al.* 2000: 13). A localization of Šaliya somewhere between Ereğli and Karaman seems possible. Note that Šaliya is not mentioned as being part of the Hūlaya river land in the Tarhuntašša treaties, but of the land of Hatti. This area, which probably extended all the way south to Hittite Ura (probably classical Hyria, modern Silifke; Forlanini 2013b: 70), remained the territory of the Great King of Hattuša because of its highly strategic value as a passageway toward Kizzuwatna and toward the sea (de Martino 1999; about the economic power of the merchants of Ura, see Lemaire 1993). Not far from Šaliya but inside the kingdom of Tarhuntašša (as mentioned by the BT i 70 and 74; Otten 1988: 14-5) should be located the cities of Waštišša and Puhanda, which are also mentioned in a religious text dealing with Kizzuwatnian places (Houwink ten Cate 1992: 250).



**Uššaula, Ušawala, Haššuwanta, Walma**

The BT (Section 10) mentions Uššaula as being at the frontier of the Hūlaya river land. The cities of Haššuwanta, Mila, Palmata, Hašhaša, Šura and Šimmuwanta are in its vicinity but on the side of the Hūlaya river land. There seems to be no other reference to Uššaula (RGTC 6/2: 182). Note that a city called Ušawala is mentioned by the UT as being at the frontier of Walma (Section 13), but this city is said to be on the side of the Hūlaya river land, unlike the Uššaula of the BT. Furthermore, Section 13 of the UT, where Walma and Ušawala are mentioned, occurs after the Section 12 mention of the “outside (land)”, and Walma is mentioned after the reference to Parha in the BT. As Parha (classical Perge) clearly marks the southwestern frontier of the kingdom of Tarhuntašša, one could believe that Section 13 describes the continuation of the western frontier further north.

All this would prompt us to consider Uššaula and Ušawala to be two distinct cities (with Melchert 2007: 509 for instance) if Haššuwanta were not described, on the one hand, as a frontier-city of Uššaula in Section 10 of the BT and, on the other hand, as a frontier-city of Walma in Section 13 of the same text (see also Hawkins 1995: 51 fn. 178; Forlanini 1998a: 234). Haššuwanta is not known otherwise (RGTC 6/2: 35). The phonetic similarity between Uššaula and Ušawala, together with the association of Haššuwanta with both Uššaula and Walma, can hardly be seen as a coincidence. One should, therefore, conclude that the BT inserted a section on the western frontier of the kingdom of Tarhuntašša (Section 10) before describing the “place of the *aruna*–”, which appears only in Section 12, then returned to the southwestern corner of the frontier with its mention of Parha after Section 12. Even if we cannot identify the *aruna*– with certainty, this movement toward Walma, then to Parha and back to Walma, shows that the BT has disturbed the strictly clockwise order that seems to have been followed in the UT. As for the city of Uššaula/Ušawala, it was inside the Hūlaya river land at the time of the UT but it might have ended up outside of it by the time of the BT.

Section 13 of the Tarhuntašša treaties describes the Hūlayan frontier-cities of Walma, namely Waltanna, Ušawala/Ušaula, Alluprata, Huhhura/Huwahhuwarwa, Kaparuwa, Haššuwanta, Walippa and Wala. According to Gurney and Garstang (1959: 131), Waltanna (RGTC 6: 473) would be identical to the Wartanna (RGTC 6: 476) mentioned in the Šahurunuwa document, along with Lušna (see also below, p. 107 *sub* Walwara). Wartanna is also mentioned with Walwara in a fragment of a religious text (KBo 63.132:5'; see below, p. 107 *sub* Walwara), so the identification Waltanna = Wartanna, a town situated at the frontier of Walma and not far from Walwara, seems plausible.

In the immediate vicinity of Walma but on the side of the Hūlaya river land lies the city of Alluprata (*RLA* 1: 71; RGTC 6: 11; RGTC 6/2: 3). Forrer (1926: 31), and Garstang and Gurney (1959: 73) after him, suggested identifying it with the Illubru of the Neo-Assyrian sources, and to localize it at Karahöyük. However, Illubru is now seen as the Neo-Hittite city of Que in Cilicia, and is thus further east (Jasink 1995: 127). Therefore, it may be more sensible to abandon the equation Hittite Alluprata = Neo-Hittite Illubru. A better candidate for Neo-Hittite Illubru is definitely Ellipra, which is mentioned alongside Zunahara, Adaniya (modern Adana) and Tarša (modern Tarsus) in the Hittite texts (Hawkins 2000: 40; Ellipra could be Yumuktepe at Mersin: Forlanini 2013b: 78 fn. 54). Huhhura/Huwahhuwarwa

(RGTC 6: 114; RGTC 6/2: 45), Kaparuwa (RGTC 6/2: 64), Walippa (RGTC 6/2: 184) and Wala (RGTC 6/2: 184) are only attested in the Tarhuntašša treaties.

Mila, which is one of the frontier-cities of Uššaula in Section 10, is otherwise unattested (RGTC 6/2: 104). It has been compared with Byzantine Meloe in the upper valley of the Göksu river, near modern Kazancı, about 47 km north of modern Anamur (Forlanini 1998a: 235 with fn. 56). This localization would show that Section 10 of the BT describes the southern frontier of the Hūlaya river land rather than the western frontier. Palmata is also otherwise unattested (RGTC 6/2: 119), like Hašhaša (RGTC 6/2: 33), Šura (RGTC 6/2: 149) and Šimmuwanta (RGTC 6/2: 145).

A city called Walma<sup>52</sup> (*RLA* 14: 641; RGTC 6: 473; RGTC 6/2: 185) is also mentioned as one of the cities attacked by an enemy of the land of Hatti in a fragment of Hattušili III's annals, along with Šalluša, Šanhata, Šuri[mma] and Walwara (CTH 82; Gurney 1997: 130-1; Forlanini 2013a: 26).<sup>53</sup> Forlanini (1998a: 237) compares Šalluša with Classical Sillyon, some 8 km east of Perge, whereas Hawkins (1995: 52 fn. 181) identifies Šalluša with Classical Selinous, also called Sallune in the Babylonian sources. This other city is further east at Gazipaşa, about 41 km southeast of Alanya on the coast. Šanhata is mentioned further on in the Tarhuntašša treaties as being at the "frontier of the outside (land)"/near "the place of the *aruna*-" (Section 12). Šurimma and Walwara are also mentioned in the same Section 12. This shows that Walma should be located at the southern/southwestern frontier of the Hūlaya river land. Otten (1988: 38 and Melchert 2007 after him) suggested that this Walma was the same as the one described at the frontier between Hatti and Arzawa, and the place of a battle during Muršili II's reign, on the Aštarpa river (maybe modern Akar çayı, northwest of the Sultan dağları; Hawkins 1998: 22). Forlanini (2012: 140) places our Walma north of the Kaštaraya river (classical Kestros, modern Aksu çayı) because it is mentioned right after Parha and the Kaštaraya river in the BT (Section 13). A Walma has been identified as Classical Holmoi, northwest of modern Akşehir and near Afyonkarahisar (Garstang, Gurney 1959: 86; Forlanini 2007b: 274), but this cannot be the one we are looking for south of Tarhuntašša. This other Walma near Afyonkarahisar should be that of Muršili II's battle on the Aštarpa river. One could think that the Walma of the Tarhuntašša treaties is the Holmoi situated at modern Taşucu, some 7 km southwest of modern Silifke. If this is the case, the southern frontier of the Hūlaya river land might have partly followed the Taurus mountain range going northeast-southwest from Niğde to Mut, and then southeast-northwest from Mut to the southwestern corner of Beyşehir lake (*pace* de Martino 1999: 296).

### **Walwara, Hawaliya, Šaranduwa**

Section 11 of the BT describes Walwara as one of the Hūlayan frontier-cities of Hauwaliya, along with Harhašuwanta, Tarāpa, Šarnanta, Tūpiša, Paraiyašša and Nāta. Section 12 of the UT and the BT describe in their turn Walwara as the frontier-city of the "outside

<sup>52</sup> For the ambiguity between Walma and Ulma, as well as between two or more cities bearing the same name, see Forlanini 1998a: 239.

<sup>53</sup> Forlanini 1998a: 236-7 mentions those cities as belonging to Lukka according to the same text.

(land)"/“the place of the *aruna-*”. Then the cities of Matā, Šanhata, Šurimma, Šaranduwa, Ištapanna, Šalluša, Tatta and Dāša (UT: Daddašši) are said to be Walwara’s frontier-cities inside the Hūlaya river land.

The city of Walwara (RGTC 6: 473; RGTC 6/2: 185-6) figures among the cities attacked during Hattušili III’s reign, along with Walma, Šalluša, Šanhata and Šuri[mma] (see above, p. 106 *sub* Walma). Walwara also appears on KBo 63.132:11’, which shows similarities in content with KBo 9.99: both fragments describe a religious ceremony involving several southern localities such as Parha, Šinnuwanta, the Hūlaya river (KBo 9.99), Walwara and Wartanna (KBo 63.132). Wartanna is mentioned right before Lušna in the Šahurunuwa text (Imparati 1974: 26-7). One could think that both KBo 9.99 and KBo 63.132 belong to the same CTH number. Walwara has been compared with classical \*Ouolora attested in “Zeus Ouolorenos” on a classical inscription of Neapolis, at modern Kiyakdede near Şarkikaraağaç, about 13 km north of Beyşehir lake (Forlanini 1988: 155-6). Gurney (1997: 134 and 139 fn. 23) finds this localization too far north and prefers to place Walwara further south along Beyşehir lake. This localization would encourage us to identify the *aruna-* of the BT with the Beyşehir lake; however, the UT indicates that Walwara is at the frontier of the “outside (land)” which, in our opinion, should correspond to the Lukka heartland, as no other plausible possibility presents itself. Therefore, the *aruna-* should designate the Mediterranean sea in the context of the BT and Walwara should be located on the southwestern frontier of the Hūlayan river land, maybe somewhere northeast of Perge, which is part of that “outside (land)” neighboring the kingdom of Tarhuntašša. The BT describes the Kaštaraya river as the frontier of Perge, which implies that this river is the frontier between the “outside (land)” and the kingdom of Tarhuntašša itself. Therefore, Walwara should be localized near the Kaštaraya river, on its eastern/northeastern side, as the BT specifies that it is inside the Hūlaya river land. Maybe a localization near classical Pednelissos (modern Kozan, about 32 km northeast of Antalya) could be suggested. Therefore, the identification suggested by Gordon (*apud* Gurney 1997: 139 fn. 23) between Walwara and Velverid Harabeleri, the latter located at Suğla lake, west of Seydişehir, should probably be abandoned.

Hauwaliya/Hawaliya (*RLA* 4: 238; RGTC 6: 105; RGTC 6/2: 37-8) also appears in the Šahurunuwa land donation (Imparati 1974: 28-9) between Hattanna (maybe classical Kotenna, modern Gödene/Menteşbey, some 45 km southwest of Seydişehir; Forlanini 1998a: 237) and Hanhana. One can also observe its name in a fragmentary passage of Hattušili III’s annals a little before the mention of Parha (Gurney 1997: 128-9). It is possible that in that passage the “land of Hawaliya” is comprised in “all the [Lu]qqa [lands]” that the text mentions, together with the “land of Parha”, that of Har-..., that of [...-š]idawanta and that of Uti[mma] (Forlanini 1998a: 243; Gander 2010: 40). If we consider Walwara to be around modern Kozan, Hawaliya should be on the Lukkan side of the Lukka-Tarhuntašša frontier, at least partly constituted by the Kaštaraya river. Indeed Section 11 of the BT indicates that Walwara is the frontier-city of Hawaliya.

Harhašuwanta (RGTC 6/2: 29), Tarāpa (RGTC 6/2: 161), Šarnanta (RGTC 6/2: 142), Tūpiša (RGTC 6/2: 174) and Paraiyašša/Pariyašša (RGTC 6/2: 120-1) seem to occur only in the BT. Only Nāta (RGTC 6/2: 110) constitutes an exception, with one other reference in a religious text in a fragmentary context (KUB 55.60 iii? 15’; Groddek 2002: 112).

The city of Māta (RGTC 6: 265; RGTC 6/2: 103) might already be mentioned in the Old Assyrian sources (RGTC 4: 84). Hittite Māta is equated to modern Mata (mountain pasture Medi Ova at Derebucak, about 37 km southwest of Beyşehir, so that Derebucak itself would be Hittite Māta) by Forlanini (1998a: 237 with fn. 63). This localization could fit that of Walwara suggested here.

Šanhata (RGTC 6: 344; RGTC 6/2: 138) is associated with Walwara, Walma, Šalluša and Šuri[mma] in Hattušili III's annals (see above, p. 106 *sub* Walma). It is the only other reference to this city in the Hittite sources. Šurimma (RGTC 6/2: 149) was located by Forlanini (2013a: 26), along with Šanhata, in the “expansion towards the Pamphylian gulf of the kingdom of Tarhuntašša”.

An equation of Šaranduwa (RGTC 6: 350; RGTC 6/2: 141) = modern Gilindere, Classical Kelenderis (modern Aydıncık, about 56 km southwest of Silifke) has been suggested by Gurney (1997: 138 fn. 21) and Yakar (2014: 510) because of the specification in the BT saying that Šaranduwa was on the *aruna*-. This identification has been supported by Melchert (2007: 511-2) on linguistic grounds but challenged by Forlanini (2013a: 25 fn. 119). One could, indeed, doubt this identification considering that Šaranduwa is described in the UT as being one of the frontier-cities of Walwara, itself at the frontier of the “outside (land)”. Therefore, Šaranduwa should probably be searched for further west. Garstang (1944: 31-2) had located Šaranduwa at Classical Isaura (modern Zengibar kalesi), at Ulupınar near modern Bozkır (itself about 43 km southeast of Seydişehir). However, this is hardly compatible with the idea of Šaranduwa purportedly having the *aruna*- as its frontier. As for Ištappanna (RGTC 6/2: 56) and Dāša (RGTC 6/2: 163), they are only attested in the BT. A Storm-god of Tatta (RGTC 6/2: 165) might be mentioned in a fragment of a cultic inventory text (KBo 56.53:22’).

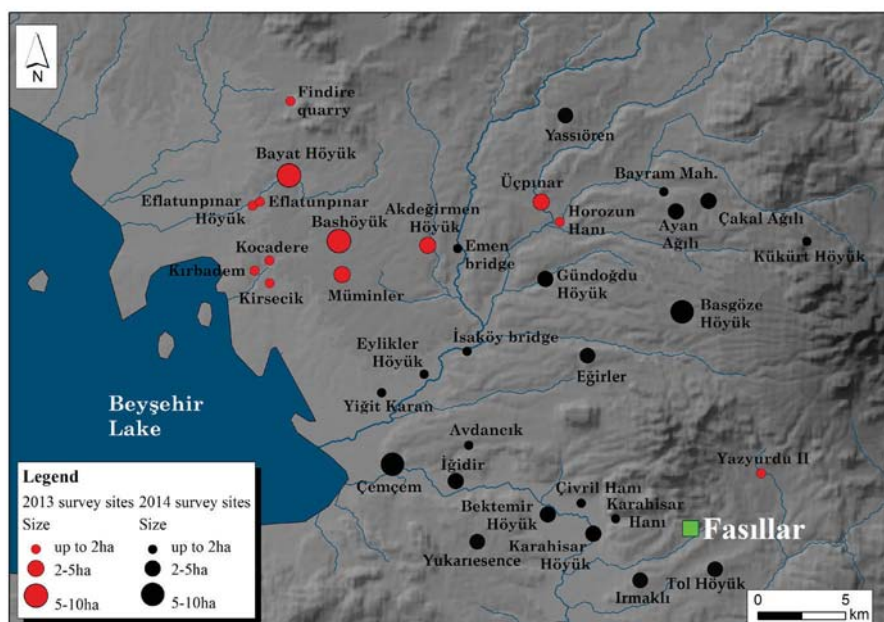


Fig. 2. The survey area.

## ARCHAEOLOGICAL SURVEYS IN THE HULAYA RIVER LAND

Since 2012, we have been surveying the surroundings of Fasıllar, thereby trying to draw the Hittite map of the region comprised between Beyşehir and Konya (fig. 2).<sup>54</sup>

**From Eflatunpınar to Üçpınar höyük (the ancient West-East road)**

Starting in Eflatunpınar, the site Eflatunpınar höyük is only 500 m southwest of the famous cultic ensemble of Eflatunpınar (coordinates of its northwestern extremity: 37°49'26" N – 31°40'14" E; fig. 3).<sup>55</sup> At this site, measuring about 120 m from northwest to southeast and 100 m from southwest to northeast,<sup>56</sup> ceramic belonging to the Hittite period have been identified by Elif Ünlü<sup>57</sup> (fig. 4). Although the site is quite flat, ceramic dating from earlier and later periods (especially Early Bronze Age and Iron Age) were also identified.



Fig. 3. General view of Eflatunpınar höyük.

This site, conveniently located near the Eflatunpınar basin and abundantly provided with water by the local spring, could be a small Hittite town where the Hittite Great King and his Court would stay during festivals involving the cultic basin (see Erbil and Mouton 2012: 70). Leading to this mound and passing the Eflatunpınar basin by its southern side, we noticed the existence of an ancient road going from west to east toward Konya. A section of the road is still visible on top of the hill opposite the Eflatunpınar basin. The Eflatunpınar basin faces this road and is visible from it. We believe that the monumental scale of the whole Eflatunpınar cultic ensemble has to be understood as an aim to make the monument visible from the road itself. This ancient road was called Selki pazarcı yolu ("ancient market road") and was still in use during the Ottoman period.

While trying to follow this ancient road eastward as far as possible, we observe the site of Bayat Höyük (coordinates of its northern extremity: 37°50'23" N – 31°41'26" E; see fig. 5)<sup>58</sup> where Hittite ceramic have been identified (fig. 4). Bayat Höyük is a bigger mound than Eflatunpınar höyük (about 126 m from north to south and 212 m from west to east) with earlier and later ceramic (Early Bronze Age to Classical period). However, it does not lie direct-

<sup>54</sup> Erbil *et al.* 2016 and Erbil 2017. Surveys were already conducted in the region: see Mellaart 1954; Mellaart 1963; Bahar, Koçak 2004. Ramsay and Garstang also surveyed the region in 1904 according to Garstang 1944: 25 fn. 54 who does not refer to any publication.

<sup>55</sup> The site is already known: see Mellaart 1954: 192, Mellaart 1963: 200 and Bahar, Koçak 2004: 23.

<sup>56</sup> We determined the size of each site according to both in-field measurements and Google Earth. However, all of them remain approximate.

<sup>57</sup> We are grateful to Elif Ünlü, who examined and dated all the ceramic material from the survey.

<sup>58</sup> Mellaart 1954: 192 and 1963: 209 already mention the site. See also Bahar and Koçak 2004: 23.



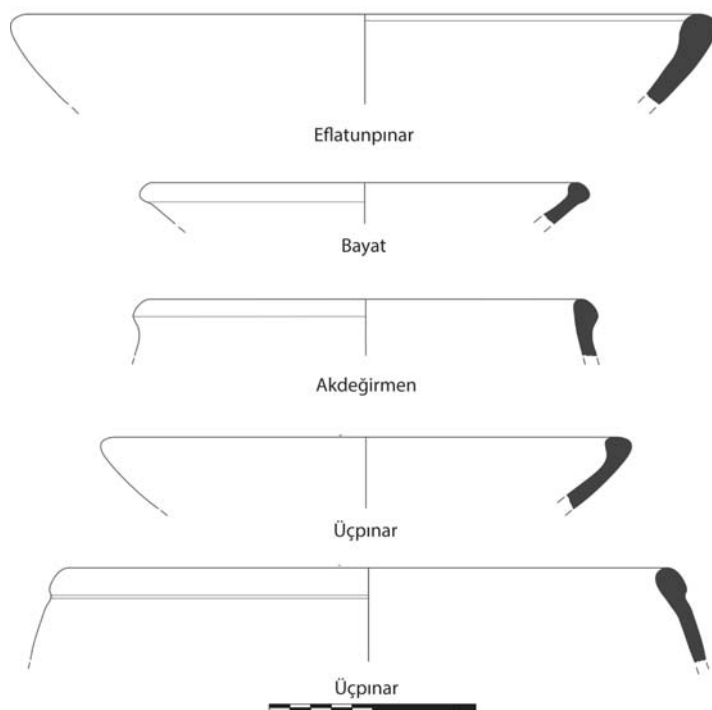


Fig. 4. Ceramic from Eflatunpınar to Üçpınar.

ly on the “ancient market road” that we observed at Eflatunpınar; a secondary road running north probably connected the west-east road to Bayat Höyük. The site of Bayat Höyük is only about 2 km north-east of Eflatunpınar and probably is a middle-sized Hittite town. It is well provided with water thanks to a source and a watercourse running on the southwestern side of the mound.

Further east, the site of Akdeğirmen höyük would be the next Hittite settlement on the ancient west-east road (coordinates of its northern extremity: 37°48’13” N – 31°45’38” E; fig. 6).<sup>59</sup> The site is about 170 m from north to south

and 140 m from west to east, which makes it a middle-sized town. It is also called Horozmekkii Höyük and lies near a small watercourse that runs east of it. Hittite ceramic was observed on the site (fig. 4), as well as older potsherds (Early Bronze Age).

Moving further east along the supposed line of the west-east road through Emen (not obligatory Hittite Iyamma; Forlanini 2015a: 31 fn. 32), we find the site of Üçpınar höyük (coordinates of its northern extremity: 37°49’32” N – 31°49’5” E; fig. 7), some 1.50 km north-west of the modern village of Üçpınar.<sup>60</sup> This large site is about 200 m from north to south and 220 m from west to east, and well provided with water thanks to a watercourse running along the southwest corner of the mound. The ceramic material of Üçpınar höyük is both Early Bronze Age and Hittite (fig. 4), the latter period being predominant on the site. Note that Üçpınar höyük is probably the biggest Hittite settlement in the immediate vicinity of Eflatunpınar; it is about 27 km away from Eflatunpınar höyük which roughly corresponds to a one-day trip.<sup>61</sup> It lies both on the ancient west-east road and on a north-south road, so it was probably a strategic place for trade, among other things. This phenomenon apparently lasted

<sup>59</sup> This site was apparently not mentioned in previous studies.

<sup>60</sup> This site was apparently not mentioned in previous studies.

<sup>61</sup> A one-day trip by caravan approximately corresponds to 20 to 25 km, with a maximum of 30 km; see Ökse 2007: 41. See also Massa 2016 Chapter 3, section 3.7, who indicates: “Information regarding travel on foot, both with and without significant loads, has been collected from a range of diverse editors, including modern experimental trips,



Fig. 5. General view of Bayat höyük.



Fig. 6. General view of Akdeğirmen höyük.



Fig. 7. General view of Üçpınar höyük.



Fig. 8. General view of Eğirler höyük.

until modern times, as a caravanserai is still visible at Üçpınar (Horozun hanı). The Hittite road going east from Üçpınar toward Konya is still unknown to us. However, it could be similar to that going through Kızılören in Roman and later times.

### From Üçpınar höyük to Karahisar höyük (the ancient north-south road)

From Üçpınar höyük, an ancient road going south seems to lead to other Hittite settlements. Some 11 km south of Üçpınar höyük lies the archaeological site of Eğirler höyük (coordinates of its northern extremity: 37°43'58" N – 31°49'42" E; fig. 8).<sup>62</sup>

The mound is located some 1.70 km west of the modern village of Eğirler, and its size is about 225 m from north to south and 180 m from west to east. It is not located directly on the ancient north-south road but seems to be connected to it by a secondary road. A spring provides water to the settlement. Early Bronze-Age and Hittite ceramic was found on the site (fig. 9).

classical literary sources and modern clinical tests that suggest a range between 20-24 km/day with heavy loads and 32-40 km/day without load." We would like to thank Michele Massa for sending us his unpublished manuscript.

<sup>62</sup> This site was apparently not mentioned in previous studies.

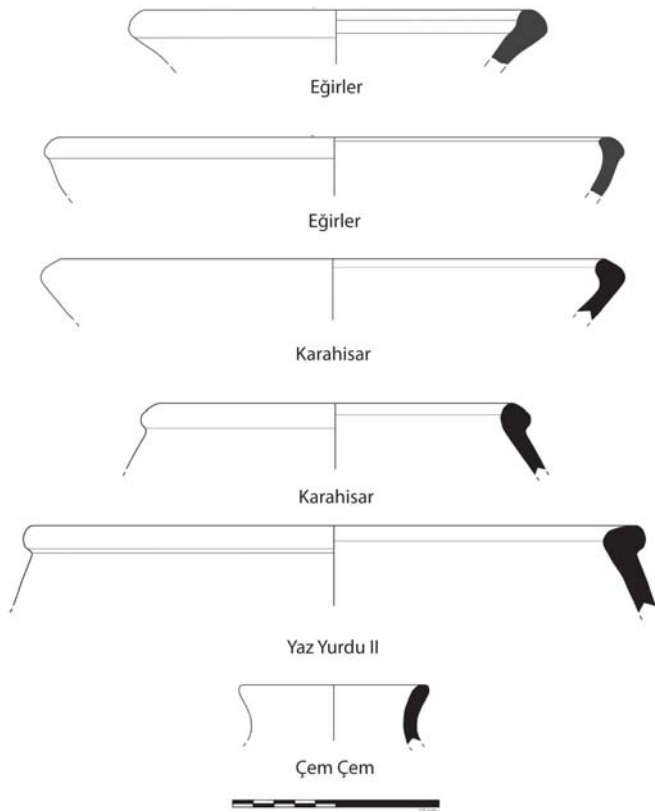


Fig. 9. Ceramic from Eğirler to Çemçem.

The next Hittite settlement along the north-south road is Karahisar höyük (coordinates of its northern extremity: 37°39'25" N – 31°50'45" E; fig. 10), about 1 km southwest of the modern village of Karahisar.<sup>63</sup> The mound is 305 m from north to south and 330 m from west to east, which represents a big settlement. This site could be the biggest city near the Hittite monument of Fasıllar: it lies about 4.5 km west of the Fasıllar monument. The existence of an ancient road directly linking Karahisar höyük to Fasıllar, thus going west-east, is probable.<sup>64</sup> A watercourse runs along the northwest foot of the mound. The ceramic material found at Karahisar höyük possibly dates from the Early Bronze Age and

the Hittite period (fig. 9). The eventual continuation of the ancient north-south road toward the south remains to be explored.

### From Karahisar höyük to Yazıurdu II höyük (the ancient west-east road)

As already stated above, we suspect the existence of an ancient west-east road connecting Karahisar höyük to the Fasıllar Hittite monument. From Fasıllar, the road seems to continue toward Yazıurdu II höyük (coordinates of its northern extremity: 37°41'13" N – 31°55'51" E; fig. 11),<sup>65</sup> a settlement located about 4 km northeast of Fasıllar and about 1.5 km southwest of the modern village of Yazıurdu. The mound is about 107 m from north to south and 105 m from west to east, and a watercourse ran northeast of it, although it has since dried up. Hittite

<sup>63</sup> This site is already mentioned by Mellaart 1954: 192.

<sup>64</sup> We would like to thank Fahrettin Kibar, the muhtar of Fasıllar village, who has kindly assisted us since 2012 and told us about an ancient road his forefathers used by donkey to go directly from Fasıllar to Karahisar.

<sup>65</sup> This site was apparently not mentioned in previous studies.



Fig. 10. General view of Karahisar höyük.



Fig. 11. General view of Yazyurdu II höyük.



Fig. 12. General view of Çemçem.

(fig. 9) and Classical ceramic material was observed on the site. The fact that an ancient road passed Yazyurdu II höyük or its close vicinity seems corroborated by the existence of a caravanserai near Hüseyinler, a village located some 1.2 km southeast of the mound. Because of the existence of this caravanserai (called Hacı Osman Ağa Kuyusu), we can suggest that the ancient road passed by it and then the southern foot of Yazyurdu II höyük. The continuation of this road toward the east is unknown to us for the time being. However, the western extension of this same road might be attested, as we will see below.

### **From Karahisar höyük back to Eflatunpınar (the ancient southeast-northwest road)**

Back to Karahisar höyük, the ancient road might have gone northwest toward Eflatunpınar. The site of Çemçem lies on that road (coordinates of its northwestern extremity: 37°41'30" N – 31°44'30" E; fig. 12).<sup>66</sup> It is a big settlement (about 225 m from northeast to southwest and 280 m northwest to southeast), some 10 km away from Karahisar höyük and about 2 km northeast of the modern city of Beyşehir. On the mound, we found Early Bronze Age and Hittite ceramic material (fig. 9). A watercourse runs along the western and southwestern sides of the site. In Hittite times, this mound was probably a large city located on the road

<sup>66</sup> This site was apparently not mentioned in previous studies.

connecting Eflatunpınar to Fasıllar. It lies some 16 km southeast of Eflatunpınar, so that one could go to Eflatunpınar from Çemçem within a day. Note that this section of the Hittite map does not include Beyşehir because no Hittite remains could be found with certainty in the city itself. However, several Early Bronze-Age remains have been observed (Barjamovic 2011: 370 fn. 1535), so Hittite discoveries are not excluded.

#### CONCLUSIONS: THE HITTITE ROADS AND THEIR “DESCENDANTS”

A road linking Konya to Akşehir through Ilgın was probably already being used during the Hittite period, as the KÖYLÜTOLU hieroglyphic monument is located on that road (Dinçol *et al.* 2000: 3), as well as the site of Zaferiye/Kale tepesi. However, the eastern section of the road might have run slightly north of the Roman road (Harmanşah, Johnson 2013: 81 fig. 1).

A northwest-southeast road connecting Eflatunpınar to Fasıllar could have been used by the Persian emperor Xerxes in 481 BC according to several authors (Levick 1967: map facing p. 256 as quoted in French 1998: 35). The same road linking Neapolis, Misthia and Karallia (Beyşehir according to Ramsay) is also suggested by Ramsay for the Roman period (Ramsay 1890: 333). This very road was still in use during the Byzantine period according to the *Tabula Imperii Byzantini* (Belke 1984: map) and might have been already there during the Early Bronze Age (Massa 2016: fig. 3.22).

A Roman road linking Iconium (Konya) to Lystra (Hatunsaray) is attested by the Peutinger Table (Ramsay 1890: 358). The same road was still in use in the Byzantine period (Belke 1984: map). It was certainly in use during the Hittite period because not only are Ikkuwaniya and Lušna located along it, but also Hatıp and possibly Lānda.

Another Roman road may have linked Fasıllar, Beyşehir and Üzümlü, which is located south of Beyşehir lake (Ramsay 1890: 358). This road going south toward Derebucak does not seem to be attested in the Byzantine period (Belke 1984: map). However, the presence of Fasıllar, Karahisar höyük, Çemçem, possibly Māta (Derebucak?), and even perhaps Hattanna at Menteşbey/Gödene seem to attest the existence of this road in the Hittite period.

On the southern road linking Beyşehir to Seydişehir and then to Bozkır, several mounds with second-millennium-BC ceramic material have been observed (Mellaart 1958: 317).<sup>67</sup>

Near the north-south road linking Konya to Karaman, a big mound with second-millennium ceramic material has been observed at Alibeyhöyüğü, about 11 km southwest of Çumra (Mellaart 1958: 327; Dinçol *et al.* 2000: 5; Yakar *et al.* 2001: 714). Not far from this site, another big mound with similar pottery was found at Sırçalı, at the western exit of Çumra (Dinçol *et al.* 2000: 5; Yakar *et al.* 2001: 714). The same authors consider the mound of Domuzboğazlayan höyük, situated near Abditolu some 20 km north of Çumra, to be one

<sup>67</sup> According to Hawkins (1998: 25), the Hieroglyphic bulla from the site of Ortakaraviran (Mellaart 1954: 240), in this area, might be a fake, so we decided not to take it into account.



of the biggest settlements of the region (Dinçol *et al.* 2000: 5; Yakar *et al.* 2001: 714). Such a huge settlement should lie on an important road. All these data illustrate the existence of a Hittite road linking Ikkuwaniya (Konya) to Laranta (Karaman). This road could approximately coincide with the Roman road passing Kızıldağ, a peak of Karadağ. Note that Alp (1995) suggested that Kızıldağ itself could be Tarhuntašša because of the reliefs of Hartapu, who calls himself “son of Muršili” (about the KIZILDAĞ-KARADAĞ inscriptions, see Hawkins 1992). However, the site does not seem fit for such a capital because of its size (Karağuz 2013: 43). Furthermore, Hartapu claims to have built the place (d’Alfonso 2014: 229), although this could also be understood as a “rebuild”.

Dinçol *et al.* (2000: 6-7) observed several large mounds with second-millennium material along the road linking Karapınar to Emirgazi and beyond. One of the mounds with Late Bronze-Age pottery in the area of Emirgazi is Dikili Taş Mevkii, where two of the “Emirgazi” altars might have been found (Maner 2016: 230). Therefore, an ancient road should have passed along the Meke dağı.

The existence of the Mersin road (Yumuktepe-Silifke (Ura)) seems assured in the Hittite period thanks, among other things, to the presence of Hittite levels at Soloi (modern Viranşehir; Yağcı 2008), which lies on that road. The same road extends toward the east through Tarša (Tarsus) and Adaniya (Adana).

As for the road linking Silifke to Karaman, several sites also have a Hittite occupation level, such as Attepe, Kilise tepe, Çingentepe and Örentepe, so this can safely be considered as a Hittite road.

The road linking Mut to Ermenek might also be Hittite, as several sites with Bronze-Age material were observed.

A Hittite road linking Hupišna to Šuwatara through Tiwanzana and Hurniya might also be suggested, as a similar Roman road is attested. The road might have extended across Bozdağ (Mount Hana?) toward Konya.

The presence of a Hittite road linking Hupišna (Ereğli), Tuwanuwa (Kemerhisar) and Nahita (Niğde) seems clear, as it also corresponds to the Roman road. The site of Kara höyük – about 1 km west of modern Aziziye – where a fragment of a Hittite relief was uncovered by Maner (2014: 356), seems to be on that road. Similarly, Kuyunun dağı höyüğü, a huge settlement of 40 ha about 2 km south of Acıpınar (Maner 2015: 31), is well provided of Late Bronze-Age pottery, and might have been accessed by a branch of the Hupišna-Tuwanuwa-Nahita Hittite road. Another branch of that same road would have gone to İvriz, where Late Bronze-Age pottery was uncovered (Maner 2016: 237-8), and then along the İvriz çayı, thus passing Kapaklı kalesi, which also furnished Late Bronze-Age ceramic (Maner 2016: 237).

Another road linking Tuwanuwa to Dunna (Zeyve höyük), and then extending to Paduwanda (Pozantı) and south toward Tarša (Tarsus) also seems assured.

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## FROM BURIAL PLOT TO DUMP SITE

### The history of the PQ4 compound at Sagalassos (southwest Anatolia)

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#### Abstract

*This paper presents the results of three excavation campaigns at a burial compound in the Eastern Necropolis of Sagalassos (SW Anatolia). The enclosed burial plot was located in the far eastern part of the city's Eastern Proasteion and was used as such between the end of the 1<sup>st</sup>-beginning of the 2<sup>nd</sup> century AD and the beginning of the 5<sup>th</sup> century, with a hiatus around the middle of the 3<sup>rd</sup> century. Sometime at the end of the 5<sup>th</sup> century AD the compound lost its funerary function, after which it was looted and used as a dump site in the 6<sup>th</sup> century. Finally, the area was covered by stone refuse resulting from quarrying activities higher up the ridge. Nine tombs could be attributed to the original burial phase, while 30 graves dated to Late Roman times. By presenting the history of the compound and through a discussion of different archaeological and bioarchaeological data, the paper aims to shed light on the funerary practices at Sagalassos during Roman Imperial times and uncover some of the actors behind these mortuary and non-funerary activities.*

#### INTRODUCTION

In Roman Imperial times the urban centre of Sagalassos, situated in the ancient region of Pisidia (southwest Anatolia), was surrounded by its *necropoleis*<sup>1</sup>. Immediately east of the ridgeline within the city's Eastern *Necropolis*, on a vantage point overlooking the Ağlasun Valley and the area of Elmalı Pınar (Fig. 1), substantial walls belonging to an enclosure were discovered in 1987 by the Pisidia Survey Project under the supervision of Stephen Mitchell<sup>2</sup>. Based on the polygonal dry masonry and ceramics found nearby, these walls were attributed to early Hellenistic times<sup>3</sup>. Given its location in the landscape, this structure was interpreted as a watch tower, overlooking the south-eastern access road to Sagalassos, as part of the city's Hellenistic fortifications<sup>4</sup>. In 2012, excavations were initiated along the eastern wall of the enclosure<sup>5</sup>, in order to establish the construction date of the building. In addition to providing a date of ori-

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<sup>1</sup> Köse 2005.

<sup>2</sup> Mitchell and Waelkens 1988: 60.

<sup>3</sup> Although the ceramics were not mentioned in the article by Mitchell and Waelkens (1988), Loots *et al.* (2000: 613) refers to this published survey report for this statement. Loots *et al.* (2000: 613) further gives some parallels for this type of masonry in Hellenistic times.

<sup>4</sup> Loots *et al.* 2000; Vanderpe and Waelkens 2007: 137; Martens *et al.* 2008: 132.

<sup>5</sup> Talloen and Poblome 2014: 250-251.

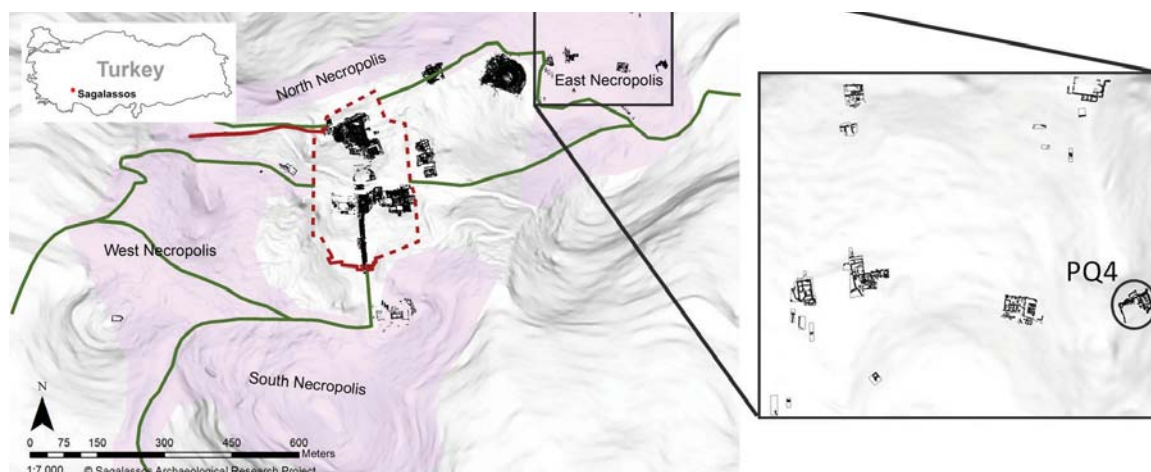


Fig. 1. Map showing the location of Sagalassos, the Eastern Necropolis and the PQ4-burial compound.

gin between the second half of the 1<sup>st</sup> century and the first half of the 2<sup>nd</sup> century AD, twenty graves were discovered inside the enclosure. Thus, a presumed Hellenistic watchtower became a Roman Imperial burial compound. In 2016 and 2017, excavations continued, as part of an FWO-project focussing on the health and quality of life of Sagalassos' inhabitants<sup>6</sup>. This paper presents the preliminary results of these excavation campaigns.

#### THE LOCATION OF PQ4: A SPATIAL ANALYSIS

The PQ4 compound is located in the Eastern *Proasteion* of Sagalassos. These suburbs, which incorporate the local Potters' Quarter, were arranged across a flat area isolated from the rest of the city. As its only entryway ascended a narrow stretch of land between the Theatre and the steeper slopes in the north, eventually dipping when reaching the Eastern *Proasteion*, these suburbs were not visible from the monumental centre, effectively banning its sounds and smells from intruding upon the rest of the city. The activities in the Eastern *Proasteion* contrasted with those 'downtown', and included both craft production and funerary practices<sup>7</sup>. Consequently, the Eastern Necropolis forms part of the Eastern *Proasteion*. A north-south limestone ridge represents a marked topographical element at the eastern side of the *Proasteion*/necropolis. The PQ4 compound is located just beyond this ridgeline on rugged terrain dominated by large outcrops of limestone. Here, the average slope percentage is 36% (= 19.7°).

A soft, yellowish limestone – susceptible to weathering and vulnerable to hydrologic processes – made up most the natural substrate. However, another, harder type of grey/white limestone outcrops can be observed in- and outside the enclosure. This limestone, the most

<sup>6</sup> FWO G.0637.15N: Contrasting population well-being in urban Roman Imperial Sagalassos (Pisidia, SW Turkey) with its Middle Byzantine successor settlement (1<sup>st</sup>-6<sup>th</sup> c. AD and 10<sup>th</sup>-13<sup>th</sup> c. AD). The preliminary results will be published by Cleymans, forthcoming a; forthcoming b and Cleymans and Poblome, in press.

<sup>7</sup> Claeys 2013; 2016.



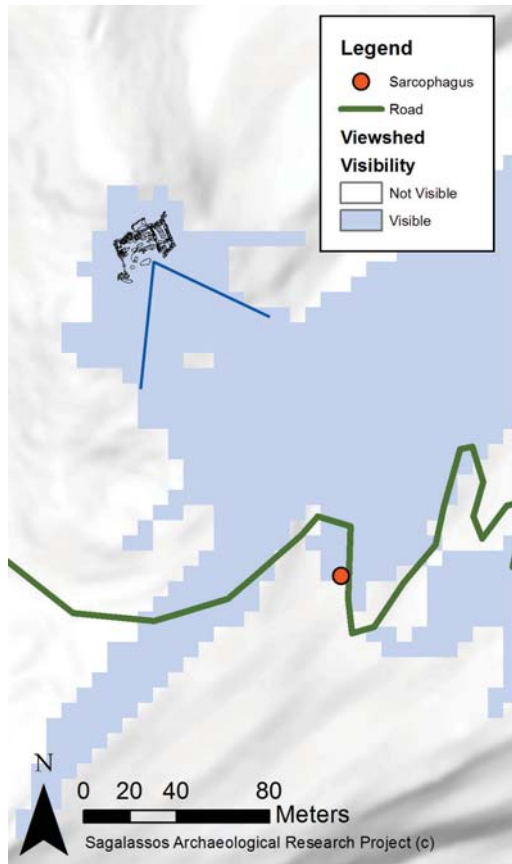


Fig. 2. The viewshed analysis indicating that the burial compound was oriented on and visible from the southeastern access road to Sagalassos.

common stone type of the Ağlasun Dağları<sup>8</sup> – the mountain ridge north of Sagalassos –, served as the city's most popular building material during Hellenistic and Roman Imperial times<sup>9</sup>. Within a radius of several meters around the compound, evidence of quarrying activities is observable in the hard limestone outcrops to the east and south, where large amounts of stone carving refuse were dumped<sup>10</sup>. Along and partly underneath the western wall of the compound, the original substrate consisted of ophiolite bedrock, often weathered into its red clay form. This type of (weathered) ophiolitic bedrock can be observed at several locations in and around Sagalassos, where it was usually exploited for pottery production<sup>11</sup>: for example, underneath the Upper Agora, and in the central depression of the eastern *Proasteion*<sup>12</sup>. Within the burial compound, however, no clay extraction has been documented.

Both the location and the terrain the PQ4 compound was built on, actualised a number of affordances and constraints. In terms of visibility, its positioning was no coincidence. In Roman Imperial times a striving towards improved visibility for burial structures has been observed throughout the Roman Empire<sup>13</sup>, and equally so at Sagalassos<sup>14</sup>. From where then did the people buried at PQ4 want to be seen? A viewshed analysis

indicated that this burial compound, and its northern walls in particular, were visible from the south-eastern access road to Sagalassos. As this was one of the main approaches to the city and the only one for heavy traffic, many passers-by would have noticed the compound before entering the *Proasteion*. It was probably no coincidence that one of the first sarcophagi a visitor to Sagalassos passed, was located exactly at the spot where PQ4 thrusts itself into view (Fig. 2).

<sup>8</sup> Degryse *et al.* 2008a.

<sup>9</sup> Degryse *et al.* 2003a; 2009a; 2009b.

<sup>10</sup> Degryse *et al.* 2008b: fig. 5.

<sup>11</sup> Degryse *et al.* 2008a; 2000; 2008c; Neyt *et al.* 2012.

<sup>12</sup> Talloen and Poblome 2016: 115-116; Poblome *et al.* 2001; Degryse *et al.* 2003b; Six 2004.

<sup>13</sup> E.g. Italy (Borg 2011; Davies 2010: 139-170), Syria (De Jong 2010: 623-624), Britain (Esmonde Cleary 1992: 34-35) and Egypt (Venit 2002). See also von Hesberg 1992: 22-26; Purcell 1987: 32-33.

<sup>14</sup> Köse 2002; 2005.

The orientation of this funerary complex did not follow the ridgeline it was built upon, but was slightly tilted eastwards. As a result, the compound's posterior wall faced the south-eastern entranceway. The steep slopes and stony terrain, on the other hand, required serious efforts to create a level surface for the compound. Altering this landscape must have been a tremendous undertaking, but had the advantage that most of the stones could be used in the construction of the walls and tombs.

#### A CHRONOLOGICAL OVERVIEW

The plan of the PQ4 burial compound is roughly trapezoidal, measuring 24.0m (ESE-WNW) by 12.8-16.9m (NNW-SSE) and consists of four spaces: I) the space east of the separation wall; II) the northern half of the compound representing the main area of burial; III) the southern half of the compound; IV) the northern annex room (Fig. 3). Combining the evaluation of the architectural remains, material studies and the site's stratigraphy, it was possible to distinguish five phases of use in the burial compound's history: 1) the construction of the compound; 2) the original funerary activities; 3) the 3<sup>rd</sup> century hiatus; 4) reuse as a burial zone and 5) the non-sepulchral activities. These successive phases are presented in this paper.

#### **The construction phase and original funerary activities (phases 1 and 2)**

##### *The main structure*

The first step in building the burial compound was transforming the aforementioned rugged terrain into a level surface suitable for construction purposes and to create a horizontal area of 422m<sup>2</sup>. In the northern part of the compound, behind the northern walls and the northern annex room, the bedrock was cut vertically. By carefully bringing the uneven, rocky terrain to one level, a horizontal surface was created within the northern half of the compound (c. 1,590m a.s.l.). In the western part, the bedrock was present about 0.10-0.50m underneath the surface of the 2<sup>nd</sup> century AD walking level, while in the east the limestone was situated deeper. Therefore, the southern half of the eastern retaining wall is higher than the west wall. To provide the east wall with a solid foundation on the steep slopes, the underlying bedrock was cut out stepwise. In the middle of the compound, the bedrock was cut vertically in order to create two separate terraces with a height difference of 0.5 to 0.7m. To overcome this difference, the bedrock along the west wall was cut into an inclined surface connecting the two levels. South of this ramp, in Space III, the ophiolite clay was removed to create a walking surface. The foundation of the southern part of the west wall consisted of ophiolitic bedrock, while in Space II the foundation was still made up out of carved limestone.

The walls were built according to the alignment of the levelled bedrock, and consisted of dry-laid local limestone, roughly shaped into large polygonal building blocks. These limestone blocks had to be quite heavy as the walls not only served as an enclosure, but also operated as retaining walls. Especially the south wall, which bore the weight of the terrace within the PQ4-compound, served this function. For this reason, the walls were between 1.0 and 2.6 m

thick. The area behind the north and west walls further indicated how these were constructed. After the placement of the large polygonal limestone blocks, the gap between the wall and bedrock was filled in with medium-sized limestone rubble, of which the top courses were placed in neat rows. The exterior walls did not form a rectangular enclosure. Especially the difference in length between the east and west walls – respectively 12.8 and 16.9m – is striking. The north wall measured 24.0m while the south wall could only be followed over a stretch of 7.2m south of Space I. While the north wall was ESE-WNW oriented, the assumed trajectory of the south wall followed more of a SE-NW direction. This shift in orientation can probably be explained by the builders following the contour lines in the relief.

Between spaces I and II/III, a partition wall was present 4.7m west of the northeast corner of the compound. Its northern stretch (4.0m long, 2.44m high and 1.5-0.9m wide) was structurally comparable to the enclosure walls, while the southern part (7.67m long, 0.55m high and 1.17-0.9m wide) consisted of rubble masonry. The connection between this partition wall and the north wall indicated that the former was built first, after which two separate northern walls were placed against it on either side. The southern stretch of the separation wall never emerged above walking level, and therefore can best be interpreted as having served a retaining function, bridging the higher-situated walking level in Space I and the lower terrace in Space III.

The south wall has only been attested south of Space I. Two hypotheses can be presented: Either the south wall was only present in the easternmost area, which was separated from the rest of the compound by the partition wall, or originally, the south wall continued over the full width of the compound, but collapsed at some point. Arguments can be found for both. In the southwest corner of the compound the alignment of several stones – of which only the top part has been excavated – seems to turn east, potentially forming the onset of the south wall. Yet, these stones were much smaller than those observed in the eastern part of the complex. On the other hand, the soil south of these smaller stones resembled the typical topsoil, while the one to the north did not, indicating a possible terracing fill north of the wall. Just south of Space III the topsoil quickly sloped down to the south, suggesting that erosional processes were at work here. The first hypothesis can be corroborated by the fact that in Space I, no two separate terraces were constructed as was the case with spaces II and III. The terraces thus suggest that due to downslope erosion in the south it was not possible to maintain a flat walking level as was done in Space I. For the second hypothesis, one can argue that many large polygonal limestone blocks are lying further downslope, suggesting a collapse of this wall.

The walled compound was accessible through a large gate. The entrance allowed access through the west wall, in which an opening of 3.25m had been created. In this gap, limestone rubble was embedded into the levelled ophiolite, forming a solid foundation substrate. On top, a mortar bed was applied, which supported the threshold of the gate. Only the northern part of the threshold was still present (0.87 by 0.95 by 0.25m), albeit in a shifted position. A western entrance was to be expected, being the most likely route for a pathway to the *Proasteion*.

On top of the compound's northern wall, and almost situated along the central axis, an annex room (Space IV) – measuring 5.80m east-west and 4.40m south-north – was arranged. The chamber was cut into the bedrock to create a 5.80 by 2.00m floor level. In the northeast corner of this space, the north wall turned slightly towards the east-southeast for 1.10

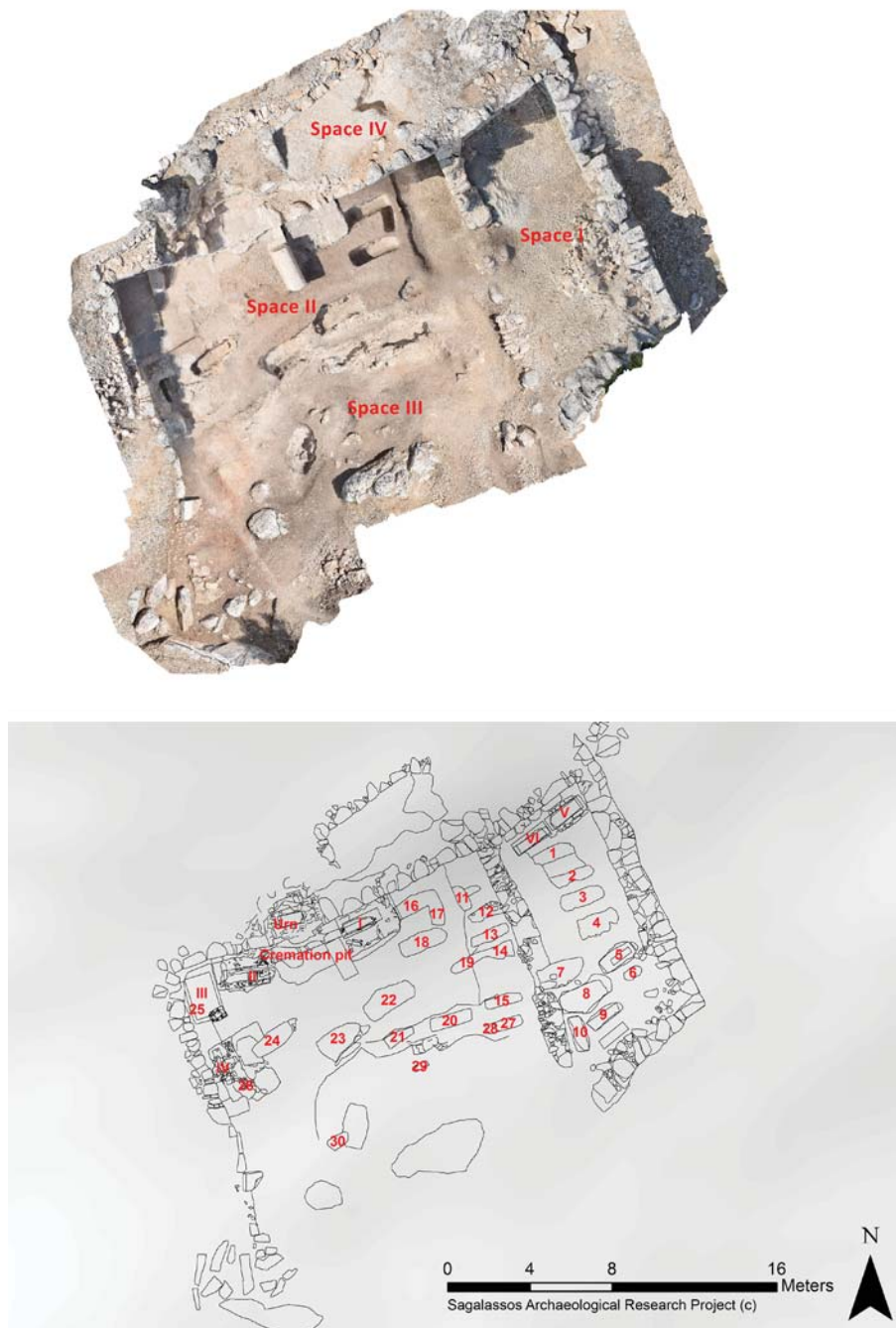


Fig. 3. Orthophoto and plan of the burial compound with indications of the spaces, tombs (Roman numerals) and graves (Arabic numerals).

m, before continuing into a vertical bedrock face, which formed its east wall. This reoriented part of the wall was undercut and needed support, as indicated by a shaft carved in the bedrock exactly underneath the void between the two protruding wall blocks. Adjacent to the east wall, a triangular pit (width: 1.60m; length: 2.40m; depth: 1.32m) was present, a natural feature formed by water oozing through the bedrock and subsequently disintegrating the limestone. One could enter this upper annex by means of a staircase situated along the east wall of the burial compound. The *in situ* arrangement consisted of two steps cut out of one large block, and two additional steps to the north, constructed with five ashlar blocks. These northern steps turned slightly towards the west, making a connection with the northernmost horizontal block of the east wall. Towards the south of the staircase, no further indications for steps were observed. Here, the rock outcrop transitioned into a steep slope. It appears that here the staircase/pathway turned towards the southeast, following a more gradual slope. In the north, the passage to the annex room continued over a pathway north of the northern wall, which was created by levelling the bedrock.

The north wall of the compound was interrupted because of a niche cut out in the vertical face of the bedrock (2.61 (E-W) by 2.06 (N-S) m). Against the niche's back wall, a tripartite brick façade was present. The central part (height: 0.61m; width: 1.23m) receded more than the two sides, which jutted out *c.* 0.70m. In the central part, a circular cavity was present in the middle (diameter 25-30cm), which originally must have held a metal, marble or ceramic *tondo*. Two fragments of such a ceramic *tondo* were found in the west of Space II. The largest fragment depicts Apollo (Klarios?) playing the lyre. As will be discussed, this niche was constructed to house the main tomb(s) of the compound.

This high-walled funerary compound was not unique in the Sagalassos *necropoleis*. South of Alexander's Hill, a comparable burial complex was discovered as part of the study of the *necropoleis*<sup>15</sup>. In Asia Minor, there are few parallels of such compounds with walls in polygonal dry masonry. For example, in the north and east *necropoleis* of Ariassos (Pisidia) this type of funerary architecture was present as well<sup>16</sup>. Once more these enclosures were dated to Hellenistic times based on their polygonal masonry, but this should be considered carefully, as no excavations took place. Actually, this pattern of enclosing a burial plot is very typical for Roman Imperial times, both at Sagalassos<sup>17</sup>, and in the rest of the Roman Empire, where plots not only became delineated, but also more difficult to enter for non-family members<sup>18</sup>. The large gate as sole entrance to the PQ4 compound followed the same trend.

### *The graves in the niche*

The original tombs of the compound were arranged during the initial construction phase. These tombs consisted of six vaulted subterranean chamber tombs, a sarcophagus and one cremation pit holding a cinerary urn. The cremation pit was constructed below the

<sup>15</sup> Köse 2005: 20-21.

<sup>16</sup> Berns 2003: 13 and plate 24.4.

<sup>17</sup> Köse 2005.

<sup>18</sup> Von Hesberg 1992: 34-38; Heinzelmann 2001: 186; Borbonus 2014: 149; Boschung 1987: 115; Petersen 2014: 40-43.





Fig. 4. The contents of the chamber holding the cremation urn.



Fig. 5. The sarcophagus with its original location – the niche – to its left.

floor of the niche. It consisted of a small chamber (1.22m long, 0.58m wide and 0.39-0.45m deep) raised in mortared brick masonry, and furnished with a floor consisting of bricks of two different sizes (40 × 40cm and 28 × 28cm). In the northwest corner of the cremation chamber a small hole, with a thin layer of mortar spread out in front of it, probably facilitated water run-off. Within this vaulted chamber an early Roman Imperial, Sagalassos red slip ware cremation urn was placed, accompanied by a contemporary, imported ceramic unguentarium, and two Sagalassos red slip ware dishes (types 1C121 and 1C100), of which the largest one (1C121) contained cremated remains as well (Fig. 4). The cremains of at least (MNI) three persons were deposited in the urn and MNI of one was present in the bowl. In the lower fill of the pit, fragments of egg shell were present. The vault was closed and a floor of ashlar slabs placed over it, on which a sarcophagus originally stood.

The coffin of the limestone sarcophagus (Fig. 5) measured 1.94m in length, 0.79m in width and 0.78m in height. At its head, a pillow-shaped plat-

form was cut into the bottom. The base of the casket was equipped with a plinth at all three visible sides. The massive arched lid measured 2.03m in length, 0.76m in width and 0.34m in height. Its only decorative elements were a simple horizontal *geison* and undecorated *akroteria* on the corners. Such barrel-vaulted sarcophagi-lids were rare at Sagalassos, as only three other examples<sup>19</sup> have been documented so far, of which the most comparable specimen resides in the west necropolis. All sides intended for display were smoothed. Indeed, the side abutting the face of the niche, including its *akroteria*, were crudely worked. The *tabula ansata* (46cm high and 60cm wide) on the front side of the coffin held the following inscription:

ΛΑΟΘΕΝΟΥΣ  
ΖΩΣΑ ΕΑΥΤΗ  
ΤΗΝ ΣΟΠΟΝ ΚΑ  
ΤΕΣΚΕΥΑΣΕΝ

“Laotherous prepared during her life the coffin for herself”

<sup>19</sup> S.81 in the south necropolis; S.188 in the east necropolis; S.228 in the west necropolis (Köse 2005: 91-92).

Based on the lettering, this text – and thus the first entombment – could be dated to the 2<sup>nd</sup> century AD<sup>20</sup>. The stone coffin was completely empty upon recovery due to looting in late Antiquity. This sarcophagus, standing in the niche, was the most prominent and visible tomb of the compound. Pursuing visibility for sarcophagi was not uncommon in Asia Minor. These were either arranged alongside main roads, positioned on pedestals, underneath baldachins, or in *aediculae* and chamber tombs<sup>21</sup>. Therefore, the sarcophagus can be characterized as the compound's main tomb.

A second entombment in the sarcophagus was indicated by a newly carved inscription on the bottom of the lid and the top of the casket. The text mentioned the burial of a woman, Aurelia Eias, wife of Aurelios.

ΑΥΡΗ{PH}ΛΙΑ ΕΙΑΣ ΡΟΔΩΝΟΣ ΑΤΤΑΛΟΥ ΠΑΝΚΡΑ[ ]  
ΓΥΝΗ ΑΥΡΗΛΙΟΥ ΔΙΟΣΚΟΡΟΥ ΑΝΤΙΟΧΟΥΣ

“Aurelia Eias, daughter of Rhodon, the son of Attalos, who is the son of Pankra[ ],  
wife of Aurelios, the son of Dioskoros, the son of Antiochos”

The names Aurelia and Aurelios indicated that the family received Roman citizenship as a result of the *Constitutio Antoniana* issued in AD 212, setting a *terminus post quem* for this entombment<sup>22</sup>. The re-use of sarcophagi was a common practice in ancient Asia Minor as shown by parallels from Hierapolis and Ephesos<sup>23</sup>.

### *The vaulted tombs*

On either side of the niche and adjacent to the north wall, two comparable vaulted chamber tombs were uncovered (Tombs I and II). In the northwest corner of the compound, a north-south oriented grave (Tomb III) was neatly installed between Tomb II and the west wall. These three tombs shared the same foundation trench, which was cut into the bedrock in front of the niche. Upon construction, the pit was backfilled with a dark brown silty soil. The ceramics in the fill were dated between the end of the 1<sup>st</sup> and the beginning of the 2<sup>nd</sup> century AD. At the northern side of the foundation pit, a semi-circular pit (c. 70cm in diameter) was cut into the bedrock, which held a greyish earth containing cremains. The mixed nature of the soil indicated that the cremains probably belonged to a disturbed deposition.

Tombs I and II were built in a similar way. The walls of Tomb I (Fig. 6) were made of mortared bricks (28×28×5cm) and the floor consisted of two sizes of tiles (38×38 and 28×28cm). The east and west walls were erected first, after which their northern and southern counterparts were placed against them. The inner dimensions of the tomb ran 1.87m in length, 0.61m in width and 0.84-0.86m in height, and it was enclosed in a larger platform made of mortared limestone rubble. In this tomb, a female individual between 25-40 years old at death was buried in a supine position with the head at the east end of the grave and the arms and legs extended. Rodents had disturbed the skeleton, resulting in a concentration north of the

<sup>20</sup> Cleymans and Uytterhoeven, in preparation; including detailed discussion of both inscriptions.

<sup>21</sup> E.g. Termessos (Heberdey and Wilberg 1900), Side (Mansel 1978: 173), Myra (Wiegartz 1975: 74), Assos (Berns 2003: 59-60), Elaiussa Sebaste (Machatschek 1967: 41-43).

<sup>22</sup> Cleymans and Uytterhoeven, in preparation.

<sup>23</sup> Sarcophagi 62 and 63 at Hierapolis (Ahrens 2010: 7; Ahrens *et al.* 2013: 20); for Ephesos: Steskal *et al.* 2003.



Fig. 6. 3D image of Tomb I: 1) glass unguentaria; 2) golden earrings; 3) golden epistomion; 4) wooden box containing hairpins; 5) strigilis; 6) silver ring.

skull, which contained most of the axial skeleton. A thin layer of very dark, moist soil covered the tomb's floor, which probably originated from the decomposition of organic material in the grave. Much of this layer was covered by calcite. Based on the lack of nails, it seems that no coffin was used. Underneath the skeleton, however, wood-fragments were preserved, suggesting that this person may have been laid out on a stretcher to lower her into the grave.

Next to her upper right leg, a Cu-alloy *strigilis* was present. At the other side of the body, next to her upper left leg, a small wooden box containing seven bone hairpins, was found. The box was partly preserved owing to the calcification of the organic material. On one of the phalanges of the left hand she wore a silver ring. A heavily corroded iron ring was present in the abdominal region, close to the right hand, but associated with a phalanx from the left hand. On either side of her head a small bulbous glass unguentarium was positioned. These were both placed or fallen sideways, with their necks pointing west. In the bone concentration north of the skull, two golden dangle earrings were found. The gold wire fasteners were made in such a way that the earrings could not be opened, indicating that these earrings were specifically made as grave goods. Finally, underneath the mandible, a golden *epistomion* with an embossment of a bee was found. After the act of burial, the grave was closed. As indicated by the negative imprints on the mortar, two planks were placed on top of the east and west walls (the northern plank being 20cm wide, the southern 26cm). Subsequently a layer of textile was placed on top, to prevent mortar from dripping down. Finally, a thick layer of mortar was applied, which formed the basis for placing the brick vault.

The walls of Tomb II (Fig. 7) were constructed in the same manner, but the floor tiles differed in size (70 × 70 and 28 × 28cm). This tomb measured 2.19m in length, 0.93m in width and 1.49-1.27m in depth. This depth differential created a sloping floor (10%; 5.7°), probably



to direct run-off towards two holes present in the floor at the western end of the tomb. In this tomb, an adult male past the age of 50 was buried in a supine position, with his head at the east side of the grave and the arms and legs extended. The skeleton was more or less fully articulated and very well preserved. On the bottom of the tomb almost no soil was present. The absence of nails indicated that no coffin was used. On one of the left hand's phalanges a gilded Cu-alloy ring was worn. In the bezel a gem – probably garnet – with an intaglio of a helmeted warrior, probably the god Ares or the mythical city-founder Lakedaimon, was set. Northwest of the jaw, a golden *epistomion* with a bee embossed in it was found. While the one in Tomb I was rectangular, this one was rhombic in shape. A Cu-alloy coin of Septimius Severus, dating to AD 193-211, was originally placed in the mouth of the deceased, based on the green discoloration of the hyoid bone. After the entombment, the vault was completed by adding mortared bricks (28×28×5cm). Because this was accomplished without the aid of planks or another form of casing, the vault was more irregular.

Not only was the orientation of Tomb III (Fig. 8) different, its construction technique diverged as well. First, the floor of the tomb was cut into the bedrock. Subsequently, the north wall was built, followed by the two side walls and lastly the south wall, in which a door (0.50-0.61m high, 0.55m wide) was made 0.34m above floor level. The tomb measured 2.06m in length, 1.77m in width and 1.01-1.10m in depth. The vault was built in brick, and the interior of the tomb was pargeted with white plaster. Since the tomb could be re-opened through the door, it could be reused for later interments. At the door's exterior, the bedrock was cut to construct a narrow sloping access trench towards the tomb. On top of the vault, in the southeast corner, a small platform was constructed with stone and mortar. On this rubble platform, a late Hellenistic lion-shaped *osteotheca*-lid<sup>24</sup> in limestone was placed with its head gazing westwards. The lion was



Fig. 7. 3D image of Tomb II: 1) gilded ring; 2) golden *epistomion*; 3) coin.

<sup>24</sup> Stylistically dated by Veli Köse (2005: 42-43) in Late-Hellenistic times.



Fig. 8. 3D image of Tomb III: 1) iron ring; 2) iron pin; 3) coin; 4) glass unguentaria.

thus reused as a grave marker, but probably retained its function as a guardian protecting the grave<sup>25</sup> (Fig. 9).

In Tomb III, the deceased was entombed through the door in the western half of the tomb, leaving space for a second entombment in the eastern half, which never took place. This individual was an adult male between 30-50 years of age at death. The individual was placed in a supine position, the head at the northern end of the grave, and his arms and legs extended. As the entire tomb was hermetically sealed, much of the organic material was preserved. Unfortunately, the bones were soft and fragmented when touched. On the floor of the tomb, surrounding the skeleton, a dark, almost black, moist soil had formed through the decomposition of organic material. There were no indications for the use of a coffin. On one of the phalanges of his left hand, the deceased wore a heavily corroded, incomplete iron ring. Near the left shoulder an iron pin was found, which most likely served as a dress pin. To the left of his head, two glass unguentaria were present. One of the perfume bottles was standing up, while the other lay flat with its neck pointing south. A silver-coated Cu-alloy coin of Caracalla, dating to AD 201, was placed inside the mouth. Indeed, a spongy organic substance underneath the jaw displayed a green discolouration

due to the oxidation of the copper in the coin. After this inhumation, access to the grave was closed with a large tile (62 × 51 × 3.5cm), mortared around the edges. The entrance was backfilled with soil that was similar to the surrounding substrate and had a comparable ceramic content, dating between the end of the 1<sup>st</sup> and the beginning of the 2<sup>nd</sup> century AD.

While the roof of Tomb III was visible at the surface, those of Tombs I and II were levelled by filling up the steeper sides of the vaults with mortared stone rubble. These two platforms were connected by a narrower platform, situated between the niche and the foundation pit, which was partly cut into the bedrock and partly made of mortared rubble. On top of Tomb II and on the platform in front of the niche, a layer of mortar was applied onto which ashlar were fitted. Although only two ashlar on opposite ends of this structure were still present, the

<sup>25</sup> Kurtz and Broadman 1971: 239; GV 1173.



location and dimensions of the missing ashlar could be reconstructed based on their imprints in the mortar. Following the outline of Tomb II, the ashlars formed a kind of walking platform of which the central part was filled up with mortared limestone rubble. The top part of Tomb I, located east of the niche, was not used as part of the foundation of these ashlars, but was covered with large tiles.

In contrast to Tombs I, II and III, which exemplified professional craftsmanship as reflected in the use of durable and high-quality materials, a soft, crumbly green mortar of poor quality was used for the construction of Tomb IV. This tomb was arranged in a north-south orientation along the west wall of the compound, in the area between Tomb III and the cut-out ramp connecting spaces II and III. For its construction, the ophiolitic clay and bedrock were cut, followed by the placement of the north and south walls. These walls each consisted of a single ashlar block, on top of which three courses of mortared brick were arranged. The east and west walls had a mortared rubble lower level upon which a single mortared brick course was arranged on top of the west wall, and three courses on top of the eastern one. The floor consisted of levelled ophiolite. The inside dimensions of this tomb were 1.82m in length, 0.35-0.37m in width and 0.58-0.66m in depth. In the northern half of the tomb, two large marble slabs were found in a tilted position. On top of these, the skeletal remains of mostly the upper body of one individual were found. Although these remains were poorly preserved and not articulated, it could be deduced that this person was buried with the head at the northern end of the grave. The cranium itself, however, was encountered near the pelvis. No grave goods could be associated with this individual. The absence of nails indicates that this person was buried without a coffin.

After the entombment, a wooden plank seems to have been placed on top of the north and south walls, as a support for the construction of the vault. On top of this cover, half bricks were placed to create the vault. Only in the west did the vault connect with the underlying wall, while the bricks continued in an upright position on top of the east wall. As such, the levelled area on top of the vault measured 2.39m in length and 1.21m in width. A mortar bed applied upon this levelled area, evened this platform out. The bedding consisted of a very soft green volcanic mortar with limestone rubble in it. Tomb IV could be one of the oldest tombs in the PQ4 compound. The best indication for this is the continuation of the mortar bed towards the east, which forms the foundation of two lime mixing basins (N basin: 1.44 × 1.25m; S basin:



Fig. 9. The lion-shaped osteotheca-lid used as a grave marker on top of the vault of Tomb III.

1.10×0.85m). A layer of slaked lime was still present on the inside. As the other tombs, as well as the platform supporting the ashlar stones, were constructed with lime-rich mortar, these mixing basins could have been used for their construction. These lime basins superpose the mortar layer covering Tomb IV, which means that this tomb is in a relatively older position (Fig. 10).



Fig. 10. Top view of the vault of Tomb IV (purple) and the lime mixing basins (white).

In Space I, two tombs (V and VI) built against each other flanked the north wall of the compound. As this wall partly overlaid both tombs, these features can be considered as parts of one planning and construction operation. Both appear to have been built together, at the time of the construction of the compound. Moreover, the easternmost Tomb V was arranged partly underneath the foundations of the east wall. The walls of this tomb were constructed out of mortared rubble stones and brick masonry, and eventually plastered on the inside. The floor consisted of mortared limestone rubble. The inside dimensions measured 1.90m in length, 0.60m in width and 0.60m in depth. After entombment, the tomb was sealed off using wooden planks arranged in the shape of a low pitched roof, on top of which a cover of mortared rubble was built. In this vaulted tomb, the skeletal remains of a female between 30 and 40 years old at death were found, which had been disturbed by rodents. Only the skull and most of the appendicular skeleton remained *in situ*, while the axial skeleton was stacked up in a central heap against the south wall. This bone concentration also contained the remains of at least (MNI) six rodents. The body was interred in a supine position with the head at the east side of the grave and the arms and legs extended. Two nails were present in this tomb; these seem to have originated from the casing used for the construction of the vault, rather than from a coffin. Radiocarbon dating on the skeletal remains indicated that this person was buried here between 130 and 340 CalAD (2σ).

A bulbous ceramic unguentarium with a pear-shaped body and a flat base, was placed behind the head of the deceased and oriented towards the east. Parallels from other sites suggest a date in the 1<sup>st</sup> or 2<sup>nd</sup> century AD for this type<sup>26</sup>, while a continued use into the 4<sup>th</sup> century AD in the region of Pisidia has been suggested too<sup>27</sup>. All other grave goods were found within the bone concentration. Two glass unguentaria were retrieved: one was completely intact, while the other had a shattered neck. Inside the latter, an iron pin was present which probably served

<sup>26</sup> Anderson-Stojanovic 1987: 113.

<sup>27</sup> Laffi 2003: 244.

as an applicator. A total of eight bone pins also accompanied the deceased. While seven could be identified as hair pins, one had a flat rounded head, and could be identified as a spatula. Originally, these pins could have been kept in a box comparable to the one found in Tomb I. Two spinning-related tools, fashioned out of animal bone, were also part of the concentration. The first object was an intact long tapering spindle, pointed at both ends. The second object was a complete distaff ending in a standing naked female figure holding a garment wrapped around her lower body and identified as *Aphrodite*. The jewellery included two small golden earrings consisting of a triangular hanger inlaid with 21 pearls and a hoop in gold-wire piercing the ear. The wire was closed in such a way that it could not be opened, indicating that these earrings too were made for the afterlife. In addition, a silver ring similar in design to the gilded one from Tomb II, was found. The bezel held a chalcedony gemstone depicting the muse Polymnia. Finally, two halves of a slightly convex and undecorated Cu-alloy mirror disc were present. As only the disc was found, either the handle and frame were not placed in the grave, or these were made of wood. The mirror appears to have been broken on purpose, rendering it unusable before interring it with the deceased (Fig. 11). For the construction of the vault, a cover of conifer planks<sup>28</sup> was placed on top of the walls, after which a 30cm thick layer of mortared stones and bricks was applied.



Fig. 11. Grave goods of Tomb V.

The walls of Tomb VI, built against the western extremity of Tomb V, were equally constructed with mortared rubble stones and brick masonry, and later smoothed with plaster. Here, however, the floor consisted of large roof tiles. Its inside dimensions measured 1.92m in length, 0.66m in width and 0.59m in depth. In this tomb a female individual between 30-60 years old was buried in a supine position with the head at the east end of the grave, the arms placed on the pelvis. Just as in the adjacent tomb, the skeleton was disturbed by rodents, which

<sup>28</sup> Identification by Elena Marinova based on the negative imprints in the mortar.

had gathered the smaller bones from the axial skeleton in a heap at the south side of the tomb. The presence of 12 nails and some preserved conifer wood<sup>29</sup> indicated that this person was buried in a coffin. A glass unguentarium was found left of the torso with the neck pointing southwest; its form suggested a 2<sup>nd</sup>-3<sup>rd</sup> century date<sup>30</sup>. Additionally, an incomplete bone hair-pin – the head was missing – was present in the bone heap. After the entombment, the vault was constructed in a similar way as Tombs I, IV and V: a plank was placed on the east and west walls as support for the superstructure, which consisted of mortared rubble stones and tile fragments.

Some of the burials took place before or right after the compound was finalised. The mortar layer on top of Tomb IV's vault was used for the arrangement of two lime mixing basins that were needed to construct the other tombs. The cremains in the foundation pit of Tombs I and II must have been deposited before backfilling it. The cremation urn was placed in its chamber before the floor in the niche could be installed, and the sarcophagus was probably placed in the niche at the moment of finalisation. All other vaulted tombs, however, remained open until the person for which it was intended, died.

### *The walking level*

After the tombs were constructed, the entire area was covered with a layer of earth to create a walking level. In the west part of Space II, the substrate was 10-20cm thick, while in the east up to half a meter of soil was present on top of the bedrock. The entire substrate consisted of a hard, dark (greyish) brown silt, with a moderate amount of small limestones. The lime mixing basins were covered by this layer as well. Along the southern edge of Space II, the substrate became more lumpy, as it faded out towards the vertically cut bedrock. In Space III the substrate was looser than in Space I, yet the colour and composition were similar. Even the inclination that connected spaces I and II was covered by a hard walking level substrate of several centimetres. A very similar walking level substrate of c. 50cm thick was laid out in Space I. As the original substrate of the compound consisted of limestone and ophiolite bedrock, the soil must have been brought in from elsewhere. The rock-cut floor of the northern annex room (Space IV) remained uncovered.

The creation of such an earthen walking level substrate, which appears to have been high in organic content judging by its dark colour, could be indicative of a funerary garden or *cepotaphium*<sup>31</sup>. A further indication for such a garden was discovered in Space III. Here, a north-south oriented pit was cut into the bedrock (1.27m long, 0.67m wide and 0.77m deep). The content was very sterile – only a couple of 1<sup>st</sup> century AD sherds were retrieved from it – and can be described as a loose, dark brown silt. As this pit was not used as a grave, one of the hypotheses is that – given its sterility – it could have served as a pit for planting a tree. Such gardens are known from epitaphs<sup>32</sup> and ancient texts from Roman Italy<sup>33</sup>, but are very difficult

<sup>29</sup> Identification by Elena Marinova.

<sup>30</sup> Veerle Lauwers, pers. comm.

<sup>31</sup> For a discussion on *cepotaphia*: Toynbee 1971: 94-100; Campbell 2008; Brundrett 2011.

<sup>32</sup> CIL vi, 10675; 13040; 13244/5; 21020; 29135; CIL x, 2066. See Gregory 1987/1988 for a summary.

<sup>33</sup> Petronius, *Satyricon* 71; Martial, *Epigr.* I.114; Cic. *Att.* 262, 276.

to establish archaeologically<sup>34</sup>. It is hoped that recently taken samples for micromorphology, pollen analysis, phytolith studies, and organic geochemistry will shed more light on the possible presence of a *cepotaphium*. Another reason for filling the entire compound with a levelling deposit of soil is the fact that the bedrock was considered too fragile to be a functional walking surface, as was the case in the northern annex room.

#### *Other activities in the burial compound*

East of Tomb III and south of Tomb II, a burned deposit was present. Within this context, some glass fragments and ceramic sherds were found, dating to the 2<sup>nd</sup> and 3<sup>rd</sup> centuries AD. As a result, this burned layer might be related with funerary activities associated with these early 3<sup>rd</sup>-century interments. Yet, no complete objects were recorded. Similarly, on top of the backfill layer of the entrance to Tomb III, there was a burned spot covered with a flat stone. The ceramic material in this burned layer dated between the end of the 1<sup>st</sup> and the first half of the 2<sup>nd</sup> century AD. Since the entombment occurred at the beginning of the 3<sup>rd</sup> century AD, this burned spot post-dated it. That the ceramic content dated to the 1<sup>st</sup> and 2<sup>nd</sup> century AD, can be explained by the fact that the fire – resulting in the burned spot – took place on top of the walking level substrate containing such material. Immediately on top of the stone covering the burned spot, a large amount of glass fragments was found. The glass sherds belonged to the same vessel, more specifically a large bulbous bottle in a translucent greenish blue colour.

Other features in this walking level consisted of two burned spots. The first measured 72 by 36cm and was located *c.* 2m southeast of Tomb III. The second was smaller, measuring 49 by 33cm, and was located *c.* 3m south-southeast of the same tomb. This context contained a few sherds of a single underfired cup (SRSW 1A100) dating to the 1<sup>st</sup> to early 2<sup>nd</sup> century AD. All of these burned layers had a ceramic fill that was consistent with the material found in the substrate. Immediately south of Tomb IV, the clay dug out of the grave served as substrate for the arrangement of a stone platform. This east-west oriented stone platform (0.90m wide, 0.67m long and 0.32m high) abutted the west wall, and the connection between the two was facilitated by a layer of grey mortar applied upon a block partly situated on top of the compound wall. Embedded in this mortar, several upstanding half bricks were placed along the wall's interior face. Its location is no happenstance: in addition to its placement next to the vaulted tomb, this platform is also the first structure encountered when walking up the ramp connecting spaces II and III. On top of this stone platform, a small burned concentration containing large amounts of charcoal was found. This might indicate that this platform served as some kind of altar for funerary offerings.

Another interesting feature consisted of a small pit dug along the southern edge of Space II in which a complete Roman Imperial (1<sup>st</sup>-2<sup>nd</sup> century AD) cooking pot was deposited. The pot was found upside-down, but was nevertheless completely filled with earth. No fire clouding was present on the vessel's body, indicating that the pot never fulfilled its pragmatic function. In fact, the cooking pot was located in a narrow deposit of soil between two later pit graves (22 and 23; see below). Within the platform of Tomb I, near its southwestern exterior,

<sup>34</sup> One exception are the funerary gardens at Pompeii, where in some excavated examples the cavities of the tree trunks and roots have preserved (Jashemski 1970).





Fig. 12. The libation channel leading to the collection basin (left) and top view of the libation hole running into the platform of Tomb I (right).

a pit (60 × 45 cm and 86 cm deep) was arranged. It consisted of a cavity in the mortared rubble, accessible through a channel originating in the middle of the platform's southern edge. The channel was made with *imbrices*, starting in an upright position, then descending towards and along the platform, where it first aligned horizontally and then turned towards the west where it reached the pit. By letting the pipe start in the middle of the platform's southern edge, it gave the illusion that the pipe ran straight into the tomb itself. The association of the channel with the tomb suggests a ritual installation for the performance of libations (Fig. 12).

In the northern annex room, no burial related activities were observed. However, on the floor a concentration of fragments of a terracotta bust were found, abutting the back wall. The bust depicted a woman, as indicated by her hair and necklace, and was placed on top of a 12 cm deep (libation?) hole cut into the floor. Similar busts have been found elsewhere in tombs and sanctuaries, where they have been interpreted as representation of the deceased/votive giver<sup>35</sup>. Unfortunately, in this case the bust was incomplete, which could indicate that it was not found *in situ*. It is therefore not certain that it can be associated with the annex. The function of this room thus remains unclear.

#### *When, why and who?*

As indicated throughout the description of the construction phase, the main structure and original tombs were planned and arranged (more or less) together. Indeed, the two tombs (V and VI) in Space I were constructed before the north and east wall were built. Both the niche and the underlying cremation pit had to be planned in accordance with the construction of the wall, and since the niche's size accommodated the sarcophagus, this arrangement was worked out in advance as well. The bedrock in the northern annex room was cut, both for the construction of the compound's northern wall and for the space itself. Stratigraphically, it was not possible to provide a relative chronology for the construction of the wall and the vaulted tombs. The three vaulted tombs, however, were constructed in the same foundation pit. For the layout of Tomb IV, the builders foresaw that the entrance of Tomb III would need to be

<sup>35</sup> Huysecom-Haxhi and Muller 2015.

arranged in such a way that it passed Tomb IV to the east. The symmetrical layout of Tombs I and II at either side of the niche shows once more that these tombs were not built *ad hoc* whenever a person died. Indeed, as discussed later on, many of these vaulted tombs remained empty for a while, sometimes for over more than half-a-century.

The pottery and coin dates<sup>36</sup> from the construction-related contexts corroborated the presumed single construction phase. Soundings behind the north wall of the compound, as well as the excavation of the foundation layers of the east and partition wall, gave a date between the full 1<sup>st</sup> and the first half of the 2<sup>nd</sup> century AD<sup>37</sup>. Ceramic sherds embedded in the mortar used for the construction of the tombs provided a similar date. Tomb I and III had several ceramic sherds in their mortar matrix, respectively dated to the second half of the 1<sup>st</sup>- first half of the 2<sup>nd</sup> centuries AD, and the 2<sup>nd</sup> century AD<sup>38</sup>. The mortared stone rubble on top of Tomb II contained sherds attributed to the 2<sup>nd</sup> century AD<sup>39</sup>. The backfill of the foundation pit occurred between the end of the 1<sup>st</sup> and the early 2<sup>nd</sup> century AD<sup>40</sup>. The foundation trenches of Tombs V and VI were both dated to the late 1<sup>st</sup> to early 2<sup>nd</sup> centuries AD<sup>41</sup>. The ceramics within the walking level substrate fell within the same date range: between the full 1<sup>st</sup> and middle of the 2<sup>nd</sup> century AD. The ceramic content of the substrate in Space I was dated to the first half of the 2<sup>nd</sup> century AD<sup>42</sup>. A coin dating to the reign of Marcus Aurelius (AD 161-180), as well as Perge lead glazed ware and Pompeian red ware sherds were present in this layer as well. The backfill of the lime mixing basins showed a full 1<sup>st</sup>-century AD date<sup>43</sup>.

All construction related activities thus seem to have taken place in the late 1<sup>st</sup> or first half of the 2<sup>nd</sup> century AD, and were part of one or a few successive building efforts following a preconceived layout. The first entombments – i.e. the sarcophagus, cremation urn and vaulted Tomb IV – took place during this same period. The other graves were already constructed, but remained empty and in case of Tombs I, II, V and VI, the vault was most likely not even finished yet. This suggests that when the decision to build PQ4 was made, the people that would get buried there were already known. The question remains whether these individuals belonged to the same family, whether they were members of a funerary club or *collegia*<sup>44</sup>, or whether the tombs were sold to the highest bidder by building companies or undertakers<sup>45</sup>.

<sup>36</sup> For the ceramic typology and their relative chronology, we would like to refer to Poblome 1999 and Degeest 2000. Coin dates provided by Fran Stroobants.

<sup>37</sup> Manifested in the presence of Sagalassos Red Slip Ware (SRSW) types 1A160, 1B170, 1B190, 1C100, 1C120, 1C121 and 1C160.

<sup>38</sup> Respectively SRSW types 1A100 and 1A150.

<sup>39</sup> SRSW type 1B150/170.

<sup>40</sup> SRSW types 1B122, 1B160, 1B190, 1C100, 1C110, 1C122, 1C170 and 1F150.

<sup>41</sup> SRSW types 1A161, 1B150, 1B170, 1B191, 1C100, 1C120, 1C121, and 1F150.

<sup>42</sup> Space I: SRSW types 1A111, 1B170, 1B191, 1C100, 1C121 and 1F150; Space II: SRSW types 1A100, 1A111, 1B120, 1B150, 1B163, 1B170, 1B190, 1B240, 1C100, 1C121, 1C160, 1C190, 1C200 and 1F150; Space III: SRSW types 1A100, 1B150, 1B163, 1B190, 1B191 and 1C132.

<sup>43</sup> SRSW types 1A150, 1B150, 1B162, 1B170, 1B191, 1C100, 1C120, 1C121, 1C132 and 1D101.

<sup>44</sup> Van Nijf 1997: 31-69.

<sup>45</sup> E.g. the burial houses in Ephesos' Harbour necropolis (Steskal 2017: 185).

Regarding this question, we consider the evidence to point towards a burial plot belonging to one family. Indeed, the layout of the tombs was preconceived in its entirety in the late 1<sup>st</sup> or early 2<sup>nd</sup> century AD. As the sarcophagus was the central and most visible feature of the compound, it most likely belonged to the person (or to a close relative) that commissioned the construction of the compound. The choice for a sarcophagus placed on top of a chamber containing the cremation remains of at least four people, likely conveyed symbolic links echoing implicit statements of ancestry and legacy. In Sagalassos, sarcophagi first appeared at the beginning of the 2<sup>nd</sup> century AD, with the stylistically dated ‘*Girlandensarkophage*’<sup>46</sup>. Yet, Sagalassos counted plenty of undecorated stone caskets – such as the PQ4 sarcophagus – which could not be dated with the same standards and therefore might be different in date. When it comes to cremation urns, the PQ4 cinerary currently is the youngest one. Other examples were found at Site F, situated in the northern parts of the eastern *Proasteion*<sup>47</sup>. These urns have been dated to the second half of the 2<sup>nd</sup> century BC. This tradition continued into late Hellenistic times, as indicated by one example in the southern necropolis<sup>48</sup>. Cremation remained the common practice at Sagalassos during the Hellenistic period and was only gradually replaced by inhumation from the later 1<sup>st</sup> century AD onwards, until it went out of use in the 2<sup>nd</sup> or beginning of the 3<sup>rd</sup> century AD<sup>49</sup>. The choice for placing a newly introduced container – the sarcophagus – on top of a chamber holding a cremation urn – an antiquated tradition by then – can tell us a lot about the people buried in these respective containers. It is almost impossible not to hypothesize that Laothenous deposited the remains of her ancestors underneath her sarcophagus.

As a final argument, we refer to the two symmetrical tombs (I and II). These contained the corpses of respectively a woman and a man, who were interred in similar ways: both were buried with the head at the east end of the grave, the arms and legs were extended, no coffin was used, and both were vaulted chamber tombs made and closed in similar fashion. We could argue that the burial practices were comparable for all inhumations of this first phase: the dead were either buried with the head at the east or the north side of the grave (even in the sarcophagus), were almost all buried in the same position and without a coffin, with Tomb IV and VI as the exceptions, and all tombs were built alike. The similarity in grave goods between Tombs I and II is striking, however. Although most of the assemblages were clearly gendered – golden earrings and hair pins for the woman and a signet ring and coin<sup>50</sup> for the man – they both received an *epistomion* to be placed on the mouth. Both of these lamellae showed the embossment of a bee. No other examples of this have been found in Sagalassos, but *epistomia* were not uncommon in the Hellenistic and Roman Imperial Eastern Mediterranean<sup>51</sup>.

Altogether, we hypothesise that the individuals buried during the 2<sup>nd</sup> and the beginning of the 3<sup>rd</sup> centuries AD were related, possibly through family ties. Corroborating this

<sup>46</sup> Köse 2005: 108.

<sup>47</sup> Waelkens *et al.* 1991a: 208; Waelkens *et al.* 1992: 94.

<sup>48</sup> Köse 2005: 38–39.

<sup>49</sup> As indicated by the *arcosolia* (Köse 2005: 146–147).

<sup>50</sup> On the aspect of gender in the giving of coins: Stroobants and Cleymans, in preparation.

<sup>51</sup> Another example is on display in the Burdur Archaeological Museum (inv. n° E-9590). Unfortunately, the origins of this object remain unknown. See also: Tzifopoulos 2010.

hypothesis, however, will be extremely hard. The only possible way is through aDNA analysis. The same is true for the reuse of the sarcophagus. As the name Laothenous does not occur in the known family trees at Sagalassos, it remains inconclusive whether Aurèlia Eias and Laothenous were related. As this reuse was contemporary with the moment most of the vaulted tombs were taken in use for the first time, we consider that the original group of people were still in charge of the burial compound. Consequently, they would only allow Aurèlia to get buried here if she had some connection with the family – or whatever other relationships these people had.

### The 3<sup>rd</sup>-century hiatus (phase 3)

After the funerary activities in the 2<sup>nd</sup> and beginning of the 3<sup>rd</sup> centuries AD, very little happened in the burial compound during the rest of the latter century. Although 3<sup>rd</sup>-century ceramic material was documented only in the burned spot described above, there are multiple indications that the walking level remained in use and was even gradually raised over time. In Space I, the continuous use was observed in a layer of 8-16cm, formed on top of the original walking level. This layer contained both 2<sup>nd</sup> and 4<sup>th</sup>-century ceramics<sup>52</sup>. The top zones of the walking level too contained some intrusive 4<sup>th</sup>-century pottery sherds. The same was true for Space II, where several late Roman sherds were observed in the top 5cm of the walking level substrate. Especially in the west part of this space, the walking level was gradually raised. By the 4<sup>th</sup>-century AD, the vault of Tomb III was completely covered by soil, forming an elevated walking surface, above which only the lion grave marker stuck out. Although no stratigraphy could be observed in this 30-50cm thick substrate, its ceramic content ranged between the 1<sup>st</sup> and the first half of the 6<sup>th</sup> century AD (e.g. SRSW types 1C140 and 1F160). Above the foundation trench in front of the niche, the elevated walking level contained 4<sup>th</sup> century AD sherds as well (SRSW types 1C140 and 1F160). In Space III, no raised walking level was observed.

Given the thickness of the raised walking level substrate along the north wall in Space II, when compared to only a few centimetres in Space I, and the absence of any elevation in Space III, two scenarios can be considered. On the one hand, we could hypothesise that the walking level was raised intentionally, to cover the vault of Tomb III and to overcome the height difference between the ashlar pathway and the walking level. Consequently, the walking level in Space II lost its horizontal character, and instead sloped down, slightly and southwards. The second option is that the elevated walking level was the result of continuing activities – for example maintaining the presumed *cepotaphium*. Logically, such activities would centre on the main tombs along the north wall, which would explain why these areas display the highest elevations. An additional argument favours the second hypothesis: these layers contained material from subsequent time periods, and in the west part of Space II it was observed that the older sherds were present near the bottom of this layer and the more recent ones in the top part. This suggests a gradual and continuing formation.

It seems that the burial activities had ceased, but that funerary related practices continued. In fact, the most straightforward explanation for the lack of new interments is that all

<sup>52</sup> SRSW types 1A111, 1B100, 1B130, 1B170, 1B190, 1C100, 1C120, 1C121, 1C160, 1F150 and 1F160.

planned and constructed tombs were put to use. That does not need to mean that the relatives would stop visiting the graves. The Romans knew several festivities – the *parentalia* (13<sup>th</sup>-21<sup>st</sup> of February) and the festivals of the violets (22<sup>nd</sup> of March) and roses (23<sup>rd</sup> of May)<sup>53</sup> – during which graves of deceased family members were visited and beverages and food were shared. The installation of the libation channel in Tomb I and the stone platform next to Tomb IV offered possibilities for visiting kin. Yet, over time, even the most beloved family members are forgotten, and family histories diverge. Assuming that every 20 years a new generation is born, that the average life expectancy was approximately 40 years<sup>54</sup> and that active commemoration hardly reaches over two generations, it would take 60 to 80 years for a grave to be forgotten. Indeed, if the last burials took place at the beginning of the 3<sup>rd</sup> century AD, by the end of the 3<sup>rd</sup> century the new relatives of the family buried in the compound could lose emotional connections. Is it a coincidence that a second phase of interments and funerary activities began at PQ4 at this junction in time?

### **The reuse of the burial plot (phase 4)**

Between the end of the 3<sup>rd</sup> and the beginning of the 5<sup>th</sup> centuries AD, the burial compound was again used for interments. In total, 31 individuals were to be buried in 30 graves distributed in spaces I, II and III. While the previous vaulted tombs were constructed, the new graves were simple pits dug into the ground and/or carved into the bedrock.

#### *Space I*

In Space I, a total of 10 graves was discovered (Graves 1-10). All of these graves were dug into the substrate and partly cut into the underlying bedrock. The graves seem to have been laid out according to a somewhat regular scheme: most display the same orientation and they were arranged at regular intervals, without disturbing previous graves. This could either point to the use of grave markers, or all individuals were buried within a short time frame. Two groups of graves can be distinguished. A single row of six inhumations (1-6), arranged north to south along the east wall, and a concentration of four graves next to the southern part of the partition wall (7-10).

The two northernmost graves (1 and 2) were partly constructed in the same pit, as the upper part of the pit was shared, while the parts cut out in the bedrock were separated. Grave 1 was east-west oriented and measured 2.04m in length, 0.60m in width and was 1.25m deep. The individual buried in this grave was probably a male over 30 years old at death. He was interred in a supine position with his head at the east side of the grave. The skeleton was poorly preserved, with only remains of the skull and long bones. Therefore, the exact body position could not be reconstructed. The presence and rectilinear pattern of 14 nails indicated that this was a coffin burial. A bone and iron pin, both poorly preserved, were the only recovered objects. The bone pin appears to be intrusive, while the iron pin was probably a clothing accessory. Flotation of the grave fill indicated the presence of cereal grains, which seem to have

<sup>53</sup> Hope 2009: 99-100.

<sup>54</sup> Kron 2012.



been deposited into the grave. Grave 2 (1.75m long, 0.41m wide and 1.50m deep) likely contained a female between age 20 and 50. She was interred in a supine position with her head at the western end, and her hands folded over the abdomen. Contrasting Grave 1, this pit was partly encircled with stones. The 15 nails recovered around the skeleton indicated that this individual was buried in a coffin. A 4<sup>th</sup>-century AD ceramic jug was placed next to the head of the deceased, and a metal dress pin was found as well. Most of the ceramic material in the fill was consistent with the substrate in which the grave was dug – 1<sup>st</sup> to 2<sup>nd</sup> century AD – but some late 4<sup>th</sup> to early 5<sup>th</sup> century sherds<sup>55</sup> in the upper fill provided a *terminus post quem* for these two inhumations.

Immediately south of these graves, Grave 3 (Fig. 13) had been dug through the floor substrate and into the underlying bed-rock. This east-west oriented pit measured 2.27m in length, 0.46m in width and 1.40m in depth. A male of at least 40 years at death was interred in supine position with his head located east. His right hand lay extended along his upper body, while his left hand was placed on the abdomen. Whereas the long bones and skull were fairly well preserved, the axial skeleton had decomposed almost entirely. Once more, the presence of a coffin was represented by 15 nails surrounding the skeletal remains. A 4<sup>th</sup>-century ceramic jug was placed behind the cranium, a bowl of SRSW type 1B130 (end 4<sup>th</sup> to beginning 5<sup>th</sup> century AD) was found at his feet, and a small Cu-alloy buckle was present in the pelvic area. The fill contained sherds of what appears to have been a second 1B130 bowl. Most of the pottery sherds found in the back-fill, dated to the end of the 1<sup>st</sup> and beginning of the 2<sup>nd</sup> century AD, which is consistent with the substrate. Some sherds belonging to 4<sup>th</sup> and late 4<sup>th</sup> to early 5<sup>th</sup> century AD 1B130 bowls, and a fragment of a late Roman, local Fabric 4 amphora were documented, defining the *terminus post quem*.



Fig. 13. Top view of Grave 3.

Grave 4, located south of Grave 3, was oriented east-west and dug into the walking level substrate. The grave was encircled with stones and measured 1.93m in length, 0.52m in width and 1.12m in depth. A 14-16 year old adolescent of unknown sex was buried in a supine position, with the head at the eastern end of the grave, and the hands folded over the abdomen. The 17 nails found around the skeletal remains delimit the extent of the coffin. A ceramic

<sup>55</sup> SRSW types 1B221 and 1C140.

jug, dating to the 4<sup>th</sup> century AD, was found behind the skull. In the lower fill, fragments of a glass unguentarium were present. In addition, green discolorations tinged the mandible, which combined with an amorphous Cu-alloy object, indicated the placement of a coin in the deceased's mouth. Unfortunately, this degraded coin was unidentifiable. Again, most of the sherds in the backfill were consistent with the substrate, while a single sherd of a possible Late Roman 3 amphora set the *terminus post quem*.

In the same row of graves, further towards the south, Grave 5 was located. This east-west oriented stone-lined pit (0.90m long, 0.27m wide and 0.42m deep) had been dug in the substrate. The interred body belonged to a 3-5 years old child of unknown sex, whose remains were found placed on its left side, with the head situated at the eastern side. The presence of 12 nails encountered around the body indicated that the child was buried in a coffin. Around the right wrist the deceased wore a Cu-alloy twisted-wire bracelet, as well as a bracelet threaded with red, blue, green and white beads. A small ceramic cup, dating to the second half of the 4<sup>th</sup> century AD, was deposited at the eastern end of the grave, and two glass unguentaria were placed at both sides of the cranium. The grave fill's ceramic material consisted mostly of late 1<sup>st</sup> to early 2<sup>nd</sup> century AD sherds, while a single fragment of a 1F150/160 SRSW container set the *terminus post quem* in the 4<sup>th</sup> century AD.

In the southeast corner of Space I, a smaller and shallow grave (0.77m long, 0.40m wide, 0.20m deep) was discovered (Grave 6). This pit burial was east-west oriented and contained the fragmented skeletal remains of a child (2-3 years old). It was interred in a supine position, with the head at the eastern side of the grave. The lack of nails implied that no container was used. Around the arm this child wore an iron bracelet, and a single blue glass bead was found nearby as well. Two faience beads were recovered near the skull, suggesting the presence of a necklace. Neither the fill, nor the grave goods provided a date. Indeed, the grave was covered with limestone rubble and the recovered sherds were consistent with the content of the substrate. Nevertheless, based on the parallels with the other Late Roman inhumations and its location as part of a series of such burials, Grave 6 can most probably be attributed to Late Roman times.

Along the southern, rubble stone part of the partition wall, a concentration of four graves was located. The northernmost one (Grave 7) was dug in the walking level substrate, and measured 1.88m in length, 0.38m in width and 1.26m in depth. This grave too, was east-west oriented, and held the body of a poorly-preserved individual of unknown sex, aged between 20 and 40 years at death, who was interred in a supine position with the head at the western side. The 12 nails surrounding the skeleton indicated the use of a coffin. An imported ceramic jug, dating to the 4<sup>th</sup> century AD, was deposited behind the head, and was the only preserved grave good. The stone-rich fill of the grave contained 1<sup>st</sup> to 2<sup>nd</sup> century AD ceramics.

Grave 8 lay immediately south of Grave 7, and was dug in the walking level substrate (1.80m long, 0.79m wide, 0.75m deep). The stone lining consisted of limestone rubble and three pieces of an Early Roman Imperial vase-shaped *osteothekos*. In this grave, a female between 30-50 years old at death was buried in a supine position, with her head at the west side of the grave and her arms extended. She was accompanied by the partially preserved remains of a perinate (36-38 weeks), making this the only Late Roman grave with multiple individuals.

The presence of 11 nails around the skeletal remains indicated that at least the adult was buried in a coffin. No grave goods could directly be associated with the neonate, but the female individual was wearing a string bracelet threaded with glass and bone beads around her right wrist. Additionally, a Cu-alloy dress pin and fragments of a glass unguentarium were found in the lower fill. The fill's ceramic material dated to the late 1<sup>st</sup>-early 2<sup>nd</sup> century AD, conform with the material in the substrate. There is no direct evidence that this was a Late Roman burial, yet it is consistent with 4<sup>th</sup> to early 5<sup>th</sup> centuries AD burial practices.

Graves 9 and 10 were arranged next to each other just south of Grave 8. The pit of Grave 9 was dug in the substrate (1.70m long, 0.44m wide and 0.78m deep) and was lined with stones. A probable male between 30-50 years old at death was buried in a supine position with the arms extended and his head at the eastern side of this east-west oriented grave. The presence of eight nails around the skeletal remains suggested the use of a coffin. In the mouth of the deceased a *Iovi conservatori* coin (AD 321-324) rested, and was the only grave good present. The coffin had been covered with limestone rubble before the pit was backfilled. This fill only contained pottery sherds consistent with those in the walking level substrate.

Grave 10 was the only north-south oriented grave in Space I, most likely because it needed to fit between Grave 9 and the partition wall. The pit was dug in the substrate and measured 1.90m in length, 0.57m in width and 0.45m in depth. A 16-17 year old adolescent of unknown sex was interred in a supine position with the head at the northern end of the grave, and the arms extended along the body. Only four nails were recovered, which makes a coffin burial unlikely. The nails could also have been part of a wooden cover for the inhumation. No grave goods were present. The body was covered with limestone rubble, and the pit was backfilled with substrate material with associated ceramic material. Its relation to Grave 9 places this burial in the Late Roman series.

### *Space II*

In Space II, 16 graves (Graves 11-26) dating to Late Roman times were discovered. Once again, these were simple pits in which a coffin was placed. Almost all of them were east-west oriented. The graves were arranged in a regular way, often flanking each other laterally, or placed at regular intervals. Here, the available space was limited by the vaulted tombs along the north and west walls. In contrast to Space I, no distinct clusters or groups could be distinguished. Yet, some of the graves were related (e.g. 16 & 17, 20 & 21, 22 & 23).

Grave 11 was located just west of the separation wall, close to the northern retaining wall. This north-south oriented burial (1.25m in length, 0.48m in width and 0.94m in depth) was dug through the walking level substrate and partly cut into the bedrock. The skeletal remains of a child (4-5 years old) were well preserved. The body was interred in a supine position with the head at the northern end of the grave and with the arms and legs extended. Based on 11 nails, the use of a wooden coffin can be confirmed. Next to the left knee a glass unguentarium was present, while a small SRSW type 1A140 ceramic bowl (second half of the 4<sup>th</sup> to 5<sup>th</sup> century AD) was deposited near the feet. In the grave fill a bimetallic *nummus* of the GEI-type (Gloria Exercitus I) was found. This Roman Imperial coin dated to AD 336-340, defining the

*terminus post quem*. The ceramic content of the fill can be ascribed to the last quarter of the 1<sup>st</sup> century AD, which is consistent with the walking level substrate.

Immediately south of Grave 11, abutting the partition wall, Grave 12 was found. The pit was dug in the substrate and partly cut into the underlying bedrock (1.72m in length, 0.35m in width, 1.16m in depth). A lining of limestone rubble and tile fragments was documented. The body of a 30-60 year old female individual was interred in a supine position, with her head situated at the eastern end of the grave and her arms extended. A total of 16 nails surrounded the body in a rectangular pattern, confirming the presence of a coffin. Two glass unguentaria were placed at either side of the head. Near the skull, two golden rosette-shaped earrings were found as well. Comparable to those from Tomb V, these could not be opened, and seem to have been designed as a grave gift. Finally, a coin from the reign of Probus (AD 277-279) was placed in the mouth of the deceased. The ceramics in the grave fill dated to the late 1<sup>st</sup> to early 2<sup>nd</sup> century AD, which is consistent with the substrate the pit was dug through. The coin provided a *terminus post quem* in the final quarter of the 3<sup>rd</sup> century AD.

To the south of Grave 12, Grave 13 was dug in the substrate and partly carved into the bedrock (2.37m long, 0.46m wide, 1.16m deep). This east-west oriented grave was lined with limestone rubble. In it, a 30-60 year old male was buried in a supine position, with the head located east and his hands folded over the abdomen. The positioning of 16 nails indicated that this person was buried in a coffin. Two glass unguentaria had been placed at either side of the head, while some fragments of an iron ring were found in the fill. In the mouth, a coin from the reign of Diocletian, dating to AD 284-285, was found, setting the *terminus post quem* for the inhumation. The pottery sherds in the backfill dated to the end of the 1<sup>st</sup> and the beginning of the 2<sup>nd</sup> century AD.

Grave 14, just south of Grave 13, was east-west oriented and had been dug through the walking level substrate (0.91m long, 0.51m wide and 1.04m deep). A 10-12 year old child was interred in a supine position with the head at the grave's east side. The exact body position could not be reconstructed due to the poor preservation of the skeleton: the skull had been crushed, the feet were missing as the grave had been cut later by the burial pit of Grave 19 (see below), and only some of the long bones had survived. Found around the body, 15 nails affirmed the use of a coffin. At either side of the head a glass unguentarium was present and in the mouth of the deceased a *Concordia Militum*-coin had been placed. This Roman Imperial coin minted at Kyzikos was attributed to Maximianus, and dated between AD 295 and 299. Below the cranium a chalcedony cameo depicting Medusa was found. The location on the body indicated that it was most likely used as an apotropaic amulet. While the coin suggested a *terminus post quem* in the last couple of years of the 3<sup>rd</sup> century AD, the ceramics in the backfill layers were consistent with the substrate.

Grave 15 was located just south of Grave 14, and consisted of a simple pit (1.89m long, 0.49m wide and 0.52m deep) dug through the walking level substrate. The burial was east-west oriented and the presence of a wooden coffin was attested by the eight nails found around the body. A 30-40 years old female was interred in a supine position with her head at the east end of the grave and her hands folded over the abdomen. At either side of the cranium a glass unguentarium was placed, while a ceramic unguentarium was found at the feet. This

perfume bottle was similar to the one from Tomb V. A total of 12 wooden beads was recovered from the grave fill during flotation. The ceramics in the fill itself dated to the 1<sup>st</sup> century AD. All datable material, including the ceramic unguentarium, pointed towards the 1<sup>st</sup>- or 2<sup>nd</sup>-century AD. Yet, this would make Grave 15 the only Roman Imperial pit grave within the compound. Other aspects, such as the use of a coffin, a plain earth burial, and the placing of two glass unguentaria next to the cranium occurred in Graves 12-14 as well. Perhaps we are dealing with an heirloom. Yet, parallels suggest that ceramic unguentaria could have remained in use until the 4<sup>th</sup> century AD in Pisidia<sup>56</sup>. In this case, radiocarbon dating should provide a definite answer.

More to the west, and adjacent to the compound's northern wall, the pit (2.09m long, 0.42-0.56m wide and 1.11m deep) of Grave 16 was dug into the soil substrate and cut into the underlying bedrock. It contained the remains of a female individual who died between the age of 18 and 21. She was buried along an east-west orientation and in a supine position, with her head at the eastern end of the pit, and her arms extended along the body. The skeleton was fairly well preserved. East of the cranium a small stone platform was constructed. As this platform was found empty, its function remains unknown. The presence of 20 nails confirmed the use of a coffin. A Cu-alloy bracelet was worn around the right wrist. In addition, the deceased wore a simple Cu-alloy ring on one of the left hand's phalanges. In the grave fill, a second ring, made of iron, was found. Furthermore, a bone hairpin with a bulbous head was present underneath the skull. The lion's share of the fill's ceramics could be dated to the 1<sup>st</sup> century AD. The youngest sherds, however, provided a *terminus post quem* in the 4<sup>th</sup> century AD (SRSW types 1C140, 1B171), a date confirmed by the relation of this burial to Grave 17.

In the southeastern corner of Grave 16, the bedrock was cut to facilitate the construction of a child's grave (Grave 17). This small (0.96m long; 0.54-0.61m wide; 0.98m deep) north-south oriented pit grave was dug into the walking level substrate and cut into the underlying bedrock. It contained the remains of a young child (0.5-1.5 years old) which had been buried with the head at the northern end. The skull and upper end of the torso were fairly well preserved, and the femora were present too, while the rest of the skeleton had completely disintegrated. Eight nails, found around the head and feet, showed that this child was buried in a coffin. In the neck area, a total of 13 dark blue, globular glass beads was found. In addition, 16 complete and many more fragmented, tubular bone beads were recovered as well. Two leaden 8-shaped looped wires most likely served as some kind of clasp. Finally, underneath the mandible, a Cu-alloy pendant was present, while in the mouth a Roman Imperial *nummus* dated to AD 337-340 was discovered. Stratigraphically, Grave 16 was younger than Grave 17. These two pit graves partly overlap, and a separation wall consisting of limestone rubble and an *osteotheca* fragment was constructed over the child's skull and upper right torso. The stones were placed in such a way that the head was not damaged by the weight of the stones. This fact that the skull was not crushed by these stones, indicates that the casket had already disintegrated at the time of the wall's construction. Most sherds found in between the stones of the separation wall dated to the 1<sup>st</sup> century AD. A sherd of SRSW type 1F160 provided a *terminus post quem* in the 4<sup>th</sup> to 5<sup>th</sup> centuries AD.

<sup>56</sup> Laflı 2003: 244.



To the south of graves 16 and 17, an east-west oriented pit grave (18) was dug into the walking level substrate and – for the most part – cut into the bedrock. The grave measured 2.26m in length, 0.74-0.88m in width and was *c.* 1.20m deep. The skeletal remains likely belonged to a 25-50 year old male individual buried in a supine position, with his hands folded over the abdomen and the head situated at the west end of the grave. While the skeleton was fairly well preserved, the skull and lower spine were crushed by large limestone blocks. The deceased was buried in a coffin, as indicated by the presence and rectangular pattern of 21 nails. On top of this coffin, several large limestone blocks were placed which later after disintegration of the casket crushed parts of the axial skeleton. The deceased wore an iron ring on his left hand. During the removal of the skeleton a Cu-alloy (belt?) buckle was discovered underneath the feet. The grave's fill contained ceramics dating to the (full) 1<sup>st</sup> century AD, which is consistent with the material in the substrate.

To the southeast of Grave 18, and partly cut through the pit of Grave 14, another east-west oriented grave (Grave 19) was dug into the walking level substrate (2.02m long, 0.40m wide, 1.10m deep). This stone lined pit contained the skeletal remains of a probable male of over 40 years old at death. He was buried in a supine position with the head located at the west end of the pit and the arms extended along the torso. His lower body was fairly well preserved, while the upper body was largely decomposed and the skull had been crushed. Once again, a linear alignment of nine nails around the skeleton indicated that this person was buried in a coffin. No grave goods were retrieved, but in the upper fill two coins – a Hadrianic (AD 117-138) and one Late Hellenistic/Early Roman Imperial one – were present. These were interpreted as residual and belonging to the substrate through which the grave was dug. Most of the ceramics in the grave fill were 1<sup>st</sup>-2<sup>nd</sup> century AD in date, while two sherds belonged to Late Roman times (SRSW type 1F150/160). Also, the relation to Grave 14 indicated a 4<sup>th</sup> or early 5<sup>th</sup> century date.

At the eastern edge of the bedrock demarcation between spaces II and III, a pit (Grave 20) was cut into the limestone substrate (Fig. 14). This pit measured 2.04m in length, 0.48-0.84m in width and was 0.42-0.77m deep, and contained the skeletal remains of a poorly preserved adult individual of unknown sex. Especially the axial skeleton had disintegrated almost completely. The east-west oriented body, with its head located at the eastern end, was buried in a supine position with the right arm flanking the torso and the left one placed on the abdomen. The location of 16 nails neatly delineated the extent of the coffin, while the presence of large limestone blocks on top of the skeleton suggested that parts of the cut-out bedrock were placed on top of the coffin. When the coffin disintegrated, these stones fell down, partly fragmenting the skeleton, particularly the skull. South of the crushed cranium, a 4<sup>th</sup> century AD ceramic jug stood upright. In the mouth of the deceased a coin was present, too degraded to be identified. Underneath the skull a broken bone pin was found, suggesting that it once served as a hairpin. Additionally, a large glass bead was recovered from the chest area. The ceramics found in the grave fill dated to the 1<sup>st</sup> century AD, consistent with the date of the walking level substrate.

West of Grave 20, and cut into the same bedrock, a child's burial pit (Grave 21) was discovered. This grave displayed a trapezoid shape and measured 1.46m in length, 0.30-0.72m in width and 0.37-0.59m in depth. The east-west oriented body of a 5-7 year old child was interred with the head located at the grave's west end. Unfortunately, the degree of skeletal



Fig. 14. Orthophoto of Grave 20.

preservation was poor. The alignment of 10 nails established the use of a coffin, which originally seemed to have been covered with horizontally placed middle-sized stones. Various fragments of a small Cu-alloy artefact were found on the chest, forming a tube-like object, which is assumed to be some kind of pendant. The ceramic content of the fill – dating to the 1<sup>st</sup> century AD – showed that the walking level substrate was used to back-fill this grave.

Centrally, along the southern edge of Space II, two more graves were identified and excavated. The easternmost (Grave 22) was cut into the bedrock at three sides, while the western side connected with grave 23. This pit grave was east-west oriented and measured 2.19m in length, 0.90-0.95m in width and 1.04-0.63m in depth. The skeleton was fairly well preserved, even though the skull had been crushed by a middle-sized stone. This probable male, who was older than 40, had been buried with his head at the west end of the pit and his hands folded over the abdomen. Only four nails were recovered from this grave, too low a number to confirm the use of a coffin, and more indicative of some sort of wooden cover. Immediately south of the right tibia, a coin was found. As it is unusual at Sagalassos to find coins in a grave that

were not placed in the mouth, it is unclear whether it represented intentional deposition, or a residual origin. Moreover, the coin was too degraded for reliable identification. Grave 23, west of Grave 22, was similarly cut out in the bedrock and displayed the same east-west orientation. This pit grave (1.96m in length, 0.74-0.38m in width and 0.60-0.73m in depth) contained the remains of a probable adult female, buried in a supine position with her head located at the west end. Her skull was crushed and tilted backwards due to the impact of a stone, suggesting that the skull lay in an open space (e.g. a coffin) when the stone fell down. This was corroborated by the presence of 16 nails. Preservation wise, the skeleton was in a poor state, as even the pelvis had completely disintegrated. On the left scapula, a poorly preserved iron object, possibly a dress pin, was found. In addition, around the cranium 12 bone and glass beads were discovered. A shading in the soil surrounding the skull could be inferential of disintegrated wooden beads. Most of the pottery dated to the 1<sup>st</sup> century AD, but a single sherd of a SRSW 1B130 bowl provided a *terminus post quem* in the 4<sup>th</sup> to 5<sup>th</sup> centuries AD.

In the western half of Space II, the walking level substrate was only a couple of centimetres thick before the underlying bedrock was reached. Here, outcropping bedrock at the surface in the eastern half of Grave 24 had been clearly cut out. In the west, the pit grave (2.20m in length, 0.52-0.62m in width and 0.92-0.82m in depth) cut through the northern lime mixing basin. At the eastern end of this east-west oriented grave a rubble stone platform was arranged. Inside, a probable male between 18 and 23 years old at death was interred with his head situated in the east. This person was laid to rest in a supine position with his hands folded over the abdomen, and was fairly well preserved. To the northeast of the cranium, in a niche created by two of the platform's stones, a 4<sup>th</sup> century AD ceramic jug stood upright. On his left hand, the deceased wore a poorly preserved iron ring, while a degraded and unidentifiable coin was present in the mouth. The 18 nails found around the skeleton showed that this person must have been buried in a coffin. Regarding ceramic content, the fill mainly held 1<sup>st</sup> century AD sherds, yet only a few diagnostic pieces were found. Sherds of SRSW types 1B110 and 1C160 provided a *terminus post quem* in the 4<sup>th</sup> century AD. On top of the grave fill, a box-like feature made of bricks was found, which only contained a bit of burned soil. Archaeobotanical analysis revealed the presence of at least five charred almonds within this burned soil.

Above the west side of Tomb III's vault, a fragment of a vase-shaped *osteotheka* was supported by four upstanding elongated stones. After their removal, human remains appeared. This *osteotheka* seems to have served as grave marker for the pit grave (Grave 25) of a young child (2-3 years old). Based on the presence of six nails, this child was buried in a small coffin. A glass unguentarium was given along as grave good. Since the skeleton was incomplete and lacked anatomical relations, this probably concerned a secondary deposit of a disturbed grave. No pit lining was recognized as the soil matrix of this grave was very similar to the surrounding walking level substrate.

The final inhumation (Grave 26) was in fact a reuse of vaulted Tomb IV. The east wall of the tomb had partially collapsed. As ophiolite clay under specific conditions such as waterlogging tends to liquefy, the brick courses of the east wall washed away under the pressure of the clay behind it. Indeed, inside the tomb a series of bricks were found in a tilted position – corresponding with the wall sliding inwards – mixed with mortar fragments and embedded in clay. Eventually, and without dismantling the vault, the tomb was reopened from the eastern side to allow a second interment. However, as the tomb had filled up with clay, and cutting through clay is time consuming, it must have been difficult to clear enough space for a second inhumation. Moreover, at the north side of the tomb, the east wall remained, and further prevented the interment of a casket into this narrow (0.35m wide) space. Therefore, this entombment occurred at the original location of the east wall and continued southwards outside the tomb. While preparing the grave, the skeletal remains of the original entombment were disturbed and the associated grave goods looted. Indeed, a dump of grave gifts was deposited on top of the vault, containing typical grave goods such as a Cu-alloy bracelet with bead-decoration and the bezel of a Cu-alloy ring. The new entombment was accomplished by sliding the coffin in, pushing from the south-eastern corner. The use of a coffin was assumed by the presence of six nails found around the feet. In the south – outside of the vaulted tomb – the grave was lined with upstanding half bricks (28 × 14cm). This grave measured *c.* 2.10m in length, *c.* 0.30-0.50m in width and was *c.* 0.50m deep. The skeleton of a 18-21 year old

possible male was oriented northwest-southeast, in a supine position with his head placed at the south-eastern side of the grave, and his hand folded over the abdomen. As this skeleton was almost completely embedded in clay, it was well preserved in the sense that most skeletal elements were present. However, the bones had become brittle and fragmented during recovery. The skull had been crushed between two of the upstanding bricks flanking the grave. On each wrist, a coin was discovered, which were either placed in his hand intentionally or were moved there by post-depositional processes. Neither of these coins was well enough preserved for identification. On the pelvis the sherds of a fragmented, bulbous bottle in transparent glass were found. After the interment, the northern part of the burial – underneath the vault – was covered with stone rubble and the fragments of sarcophagi and *osteothekae*.

### *Space III*

In Space III, only four graves were discovered (Graves 27-30). Contrasting the often deep pit graves in Space I and II, these pits were relatively shallow. All four were east-west oriented and no distinct clustering could be observed. In addition, Graves 27 and 28 partly overlapped.

In the northeast corner of Space III, a pit grave (Grave 27) was dug into the substrate (0.73m long, 0.52m wide and 0.25m deep). This grave was lined with limestone rubble and tuff blocks. As mentioned, it was partly disturbed by Grave 28, or it was in actuality one grave expanded with a second interment. In this grave, a heap of loose bones was encountered, with a skull placed on top. Most of these remains belonged to an adolescent of 12-13 years of age. In Grave 28, an inhumation pit (0.70m long, 0.51m wide and 0.37m deep) contained the skull, right arm and lower legs of a male individual between 20 and 40 years old at death. A total of 13 nails was found in the fill of graves 27 and 28 combined, indicating the presence of at least one coffin. Grave goods were absent, but the ceramic fill material can be dated to the end of the 1<sup>st</sup> and beginning of the 2<sup>nd</sup> century AD, which is consistent with the date of the substrate. Some sherds from the fill dating to the second half of the 4<sup>th</sup> century AD provided a *terminus post quem* for the inhumation.

Another east-west oriented grave (Grave 29) was found in the middle of Space III (Fig. 15). This grave measured 1.53m in length, *c.* 0.70m in width and only 0.15-0.30m in depth, and was dug into the walking level substrate. The skeletal remains were poorly preserved: fragments of the superior cranial vault, the two femora and the left radius were present. Therefore, it was only possible to identify this individual as an adult. Buried in a supine position, the head was located at the western end of the grave and the hands were folded over the abdomen. The 10 nails found around the body indicated a coffin burial. Just south of the cranium a 4<sup>th</sup> century AD ceramic jug was found in upright position. The lion's share of the ceramics in the fill dated to the 1<sup>st</sup> century AD, consistent with the surrounding substrate, while the youngest sherd (SRSW type 1F160) provided a *terminus post quem* in the 4<sup>th</sup> century AD.

At the southern border of Space III, partly overlapping with the possible tree pit, a shallow grave was dug into the walking level substrate. This grave (Grave 30) measured *c.* 1.40m in length, *c.* 0.40m in width and was only *c.* 0.20m deep. The deceased – an adult of unknown sex – was inhumed in a supine position, with the head placed in the west, while



the left hand rested on the abdomen and the right arm flanked the torso. Over the cranium a large pottery sherd had been placed. The location of eight nails spread around the body suggested that this inhumation can be typified as a coffin burial. A fragmented, but almost complete ceramic jug dating from the 4<sup>th</sup> century AD, was found lying next (south) to the skull. A worked bone pin with an ellipsoid head stuck out through the opening. Usually, such a pin would be identified as a hair pin, but given its location it seems to have been used as an applicator. A Cu-alloy bracelet was found around the right wrist, while upon the left wrist three iron rods were present at regular intervals. Although heavily corroded, these were probably part of a bracelet as well. Around the skull, three glass and two amber beads were found, while a degraded coin present in the fill could not be identified. In the pelvic area three pinched off, bent nail ends were found. A similar phenomenon was documented at site F in 2012, where it was interpreted as a way of ritually fixating the soul of the dead to the body<sup>57</sup>. The ceramic content of the grave fill dated to the 1<sup>st</sup> century AD, which is consistent with the surrounding substrate.



Fig. 15. Orthophoto of Grave 29.

#### *Who was buried here?*

After the 60-80 year hiatus of burial activities at PQ4, 30 inhumations took place in this compound between the last quarter of the 3<sup>rd</sup> and the beginning of the 5<sup>th</sup> century AD. Regarding the original burial phase, we argued that the compound could have served as a family burial plot, but what about the subsequent phase? Were these family graves too? As mentioned, some regularity and various spatial clusters were observed in the arrangement of the graves. These clusters were not just spatial in nature, but display correlations in grave good assemblages as well. In Space II, along the partition wall, the north-south row of graves (Graves 11-14) contained glass unguentaria – chiefly placed at both sides of the head – and an orally deposited coin. The other spatial clusters displayed more diverse grave good assemblages. Only in the north-south row of Graves (1-6) in the east of Space I, did four of the graves contain a ceramic vessel – either a jug or a cup/bowl – while this practice was not as clustered in the rest of the compound.

<sup>57</sup> Claeys *et al.* forthcoming.



The mitochondrial DNA-analysis, applied to the skeletal remains excavated in 2012<sup>58</sup>, can provide more information on possible family ties. Having said that, mtDNA is inherited through the maternal line, meaning that siblings and their mother share the same haplotype, but that fathers may have a different one. Consequently, a haplotype shared by a cluster of skeletons can indicate family ties, although two individuals sharing the same haplotype are not necessarily closely related<sup>59</sup>. Indeed, the individuals buried in Graves 12 and 14 shared the same haplotype (T1a1'3), while the skeleton in Grave 11 had haplotype T2b and the one in Grave 13 haplotype H. This overlap in haplotypes does not present a very convincing argument in favour of family relations. Yet, those in the south-western cluster (Graves 7-10) of Space I displayed a more promising pattern. Three of the individuals buried in this cluster (Graves 7-9) shared the same haplotype (K1a). At the other side of the partition wall, in the north of Space III, the individual in Grave 27 too had the same haplotype. Similarly, three of the skeletons in the north-south cluster (Graves 1-4), in the east of Space I, shared haplotype X2b.

Accordingly, it seems that people buried in each other's proximity, or grouped in clusters, were probably related. On the other hand, these clusters remained quite distinct. The haplotypes documented in one cluster were not observed in the other groupings. This suggests that the burial compound was not used by a single, biologically related group of people, but was used by several social and/or familial groups. This shift in use from original owners during Roman Imperial times to wider, communal appropriation of burial plots was observed elsewhere at Sagalassos too. Next to the west slope workshop in the eastern *Proasteion*, a temple tomb was constructed in the 2<sup>nd</sup> century AD. The main components must have been three sarcophagi placed in the naos, which were not preserved. Yet, in the early 5<sup>th</sup> century AD, the vaulted burial chambers underneath the tomb's podium were reused<sup>60</sup>. Similarly, at Site F, the 1<sup>st</sup> and 2<sup>nd</sup> century AD burials consisted of architectural tombs, while in the 4<sup>th</sup> century AD, the plots were reused for simple coffin burials<sup>61</sup>. In general, at Sagalassos, conspicuous tomb architecture in brick or stone masonry ceased to be built in the 3<sup>rd</sup> century AD<sup>62</sup>. The situation observed at PQ4 thus finds its parallels throughout the *necropoleis* at Sagalassos.

### The continued non-funerary activities and the stone dumps (phase 5)

After the last inhumations in the late 4<sup>th</sup>-early 5<sup>th</sup> century AD, the compound lost its funerary function after a similar time gap as the one observed for the Roman Imperial interments. It was already described how the walking level remained in use during the 3<sup>rd</sup>-century hiatus, and this use continued during the second half of the 5<sup>th</sup> and the first half of the 6<sup>th</sup> century AD as well. As documented in Space II, the walking level was raised further, covering the dismantled ashlar and the mortared features on top of Tombs I and II. The ceramic content of this elevated substrate dated to the 6<sup>th</sup> century AD, often with a token presence

<sup>58</sup> Ottoni *et al.* 2016.

<sup>59</sup> Brown and Brown 2011: 177.

<sup>60</sup> Claeys and Poblome 2014a; Claeys and Poblome 2015.

<sup>61</sup> Claeys and Poblome 2013b.

<sup>62</sup> Köse 2005: 163-168.

of Roman Imperial period sherds. It seems that the walking level was still intensively used in early Byzantine times as indicated by two burned spots. The first one resulted from a rather short-lived fire, fuelled by wood (no charcoal found, only ashes) placed on top of the mortared limestone rubble over the vault of Tomb II. Like before, the ceramic content dated to the 6<sup>th</sup> century AD. South of this feature, covering the mortar bed of the ashlar, a second burned spot was present. This pit fire similarly contained generic early Byzantine ceramics. In the south of Space II, above Graves 20 and 21, a new *c.* 15-30cm thick walking level substrate formed. This substrate contained 5<sup>th</sup> (SRSW types 1B130 and 1C180) and 6<sup>th</sup> century AD (SRSW type 1B232) pottery sherds.



Fig. 16. The stone used for holding the sarcophagus lid during looting.

The most archaeologically impactful activity was the looting of some of the original tombs and structures: the sarcophagus and cremation chamber, as well as re-appropriation of most of the ashlar. The sarcophagus was found oriented north-south in a sloping and tilted position, and had been displaced to the southeast from its original location in the niche. On the corners of the sarcophagus minor damage attributable to torsion related to displacement efforts of this heavy object was visible. Moreover, when the stone coffin was found, the lid was slightly lifted, with a stone wedged in between to create an opening of *c.* 30cm (Fig. 16). Through this opening, the original content was removed. Not a single skeletal element was encountered. A fragmented, but completely refittable 6<sup>th</sup>-century bowl found on the bottom of the sarcophagus could have been used for scooping out the remains and grave goods, and is our main inference for when this looting event took place. During the content's removal, the broken grave goods – a glass vessel and ceramic

unguentarium – were placed upon the edge of the sarcophagus' southeastern corner. From the sarcophagus itself, only one glass bead was recovered.

The cremation chamber could only have been opened after the sarcophagus was removed. First, the vault was dismantled and the content removed. After which the urn was emptied, probably to scour for valuables, and subsequently re-filled. During this act, pieces of mortar and brick from the dismantled vault ended up in the urn. In addition, one fragment of the SRSW 1C100 dish was found inside the urn, while the rest of the vessel was collected from the lower fill of this chamber. It seems that part of the urn's original content remained on this chamber's floor, mixed with the aforementioned lower fill, and was not put back into the *cinerarium*. Afterwards, the urn was closed once again, and the lid was mortared to the vessel itself.

When it was placed back in the cremation chamber, the chamber was backfilled with parts of the dismantled vault and large pieces of limestone rubble (Fig. 17). The small quantities of soil present between the mortar and brick fragments contained ceramics dating to early Byzantine times.

Only four blocks of the original ashlar construction on top of Tomb II, which continued in front of the niche to create a platform, were found *in situ*. The westernmost blocks were probably too difficult to remove, as these were partly incorporated into the mortared limestone feature. The easternmost ones could not be removed because the sarcophagus leaned on them, which indicates that the sarcophagus was moved before the ashlar were removed. During this period, the brick face of the niche was also partly dismantled, as indicated by cut-marks in the mortar on top of the central part of the brick facade.



Fig. 17. Top view of the cremation chamber with the urn, bowl and parts of the dismantled vault.

As the compound was no longer properly maintained, it fell into disrepair. The unstable bedrock to the north caused several large limestone boulders to tumble down and destroy part of the north wall west of the niche. These polygonal wall blocks were found all over the western half of Space II, and some even ended up in Space III. The aftermath of a small landslide was observed within and in front of the niche, represented by a heap of stones and yellowish, loose disintegrated limestone. This scree was halted by a large bedrock boulder in the south and by the sarcophagus in the east. Towards the west, the layer gradually diminished in thickness. Despite this collapse, the area remained in use, as on top of this heap a walking surface was constructed by filling in the steeper slope next to the sarcophagus with brown soil. This soil was collected elsewhere in the compound, as the ceramic fill material dated between the 2<sup>nd</sup>/3<sup>rd</sup> and 6<sup>th</sup> centuries AD. On top of this brown layer, behind the sarcophagus, pottery was dumped. These ceramic fragments dated to the 6<sup>th</sup> century AD and belonged to large storage containers (none of these were complete) and two complete mould-made oil lamps (Fig. 18). A second dump of potter's refuse was found abutting the west wall. This large deposit covered an area of c. 2.0 by 1.5m and was almost entirely composed of fragmented ceramics dating to the 6<sup>th</sup> century AD. In the southwest corner of the compound, a dump of 6<sup>th</sup>-century terracotta saggars (or cassettes) – used to hold vessels during kiln firing of Sagalassos Red Slip Ware<sup>63</sup> – was unearthed.

<sup>63</sup> Murphy and Poblome 2017: 75.



Fig. 18. Ceramic concentration between the sarcophagus and the north wall, covered by the stone refuse dump.

Subsequently, the entire compound was covered in the 6<sup>th</sup> century by a large dump of quarrying refuse, resulting from limestone extraction higher up the ridge. This resulted in an up to 4 meter thick layer of limestone rubble against the north wall, with barely any soil in between, which also covered the northern room in its entirety. Besides a natural differentiation of stone chip sizes, no layers could be distinguished. The lack of soil between these stone dumps, indicated that the quarrying activities were continuous,

and probably took place in a relatively short period of time sometime during the 6<sup>th</sup> century as indicated by the presence of a complete bowl in the stone dump. Only in front of the niche could a change in stratigraphy be observed, as a new collapse layer had formed on top of the previous one. Here, a combination of bedrock boulders and wall blocks was attested. During the dumping of stone refuse, looting activities must have continued. Above the feet of the deceased in grave 30, a pit was dug into the stone chip layer. This pit appears to have been filled up with objects looted from some of the graves at PQ4. Indeed, it contained several incomplete ceramic unguentaria, the base of a Hellenistic urn, as well as some 1<sup>st</sup> century AD pottery. Additional finds in this pit included several iron nails, two pieces of a stone *osteotheka* and a few burned bone fragments. After dumping practices stopped, no further activities were observed in the compound.

The shift from burial compound to dump site seems to have happened during the late 5<sup>th</sup>-early 6<sup>th</sup> century AD. The PQ4 compound falling into disuse was not an exception, as elsewhere in the Sagalassos *necropoleis* a shift in burial practices was observed too. Indeed, the last documented inhumations in the original *necropoleis* took place in the early 5<sup>th</sup> century AD at the temple tomb. The first inhumation at a *coemeterion*<sup>64</sup>, near a church, was documented at the basilica north of the *Proasteion*'s eastern ridge in the early 6<sup>th</sup> century AD<sup>65</sup>. From this moment onwards, no funerary related activities were documented in the *necropoleis*. This shift can be related to the changing beliefs regarding death and the afterlife in the early Byzantine period, and thus with the transition from polytheistic religion to Christianity.

<sup>64</sup> Brandenburg 1994; Rebillard 1993.

<sup>65</sup> Talloen and Beaujean 2015.



## CONCLUSIONS

Three campaigns of excavations have provided valuable information for reconstructing the history of the PQ4 burial compound and funerary practices at Sagalassos (Fig. 19). This compound and its monumental tombs were built between the end of the 1<sup>st</sup> and the beginning of the 2<sup>nd</sup> century AD. Yet, not all of the graves were taken into use upon construction. In some, the entombment occurred in the early 3<sup>rd</sup> century AD. During the mid-3<sup>rd</sup> century AD hiatus no interments took place, while funerary practices did continue. Between the end of the 3<sup>rd</sup> and the beginning of the 5<sup>th</sup> century inhumation practices resumed, but the graves now consisted of coffin burials in pits. Sometime during the late 5<sup>th</sup>-early 6<sup>th</sup> century, the compound lost its sepulchral function: tombs were looted, ashlar constructions were dismantled, and ceramic and stone dumps covered the area in the 6<sup>th</sup> century AD. This paper presented some of the possible choices made in both mortuary and non-funerary activities at PQ4, and tried to explain the changes occurring throughout its use-life. The role of the family was stressed and the compound was placed in its broader spatiotemporal context. Yet, this compound – the first to be completely excavated at Sagalassos – has much more to offer and can answer some questions in much finer detail through more profound, interdisciplinary studies and analyses.



Fig. 19. The PQ4-burial compound at the end of the 2017 excavation campaign.

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## LOWER GÖKSU ARCHAEOLOGICAL SALVAGE SURVEY, THE FIFTH SEASON

*Tevfik Emre Şerifoğlu, Naoise Mac Sweeney and Stuart Eve\**

### **Abstract**

*This article presents results from the fifth and final season of the Lower Göksu Archaeological Salvage Survey Project (LGASSP), which was started in 2013 to document the major archaeological sites and monuments in the valley before the construction of the Kayraktepe Dam (Mersin Province, Southern Turkey). This season marked the end of the project in its current form, and the transition to a new project that examines the landscapes of the entire Göksu River Basin in the context of the wider Taşeli Peninsula and the Karaman Plain. Therefore, the season of two weeks did not only focus solely on the Lower Göksu Valley but our team also conducted initial investigations along the Mediterranean coast from Anamur to Silifke and in parts of the Karaman Plain surrounding Karadağ. This article presents a summary of the results of this transitional field season together with a brief presentation of our digital photogrammetry subproject, and a discussion about the regional land routes and settlement patterns. The fifth season of the LGASSP, which is a collaborative project of Bitlis Eren University and the University of Leicester, was once more funded by the British Academy through a Newton Advanced Fellowship.*

### INTRODUCTION

The summer of 2017 saw the fifth and final field season of the Lower Göksu Archaeological Salvage Survey Project (LGASSP), which was started in 2013 as a response to the construction of the Kayraktepe hydroelectric dam in the Göksu Valley (Mersin Province, southern Turkey). The season lasted two weeks and was conducted in September 2017. Over the last four years, our team has investigated the Lower Göksu Valley in detail, allowing us to study the changing settlement systems, routes and communication networks; as well as the wider archaeological landscape, shedding new light on the regional cultural history from the Chalcolithic to the Medieval period (Şerifoğlu et al. 2014; 2015a; 2015b; 2016; 2017; Şerifoğlu 2017). The 2017 field season had a slightly different focus from those of previous years, as it represented the formal end of the LGASSP and the transition to a new regional project that aims to study the whole Göksu River Basin, the Taşeli Peninsula in its entirety, and the Karaman Plain at the southern edge of Central Anatolia (Fig. 1). A part of the season was spent completing the work in the Lower Göksu Valley, continuing and finalising what we started earlier. During the rest of the season, we conducted initial explorations of the larger area, first along the coast from Anamur to Silifke; then in the Gülnar area between the coast and the valley; and finally in the Karaman Plain, mainly around Karadağ.

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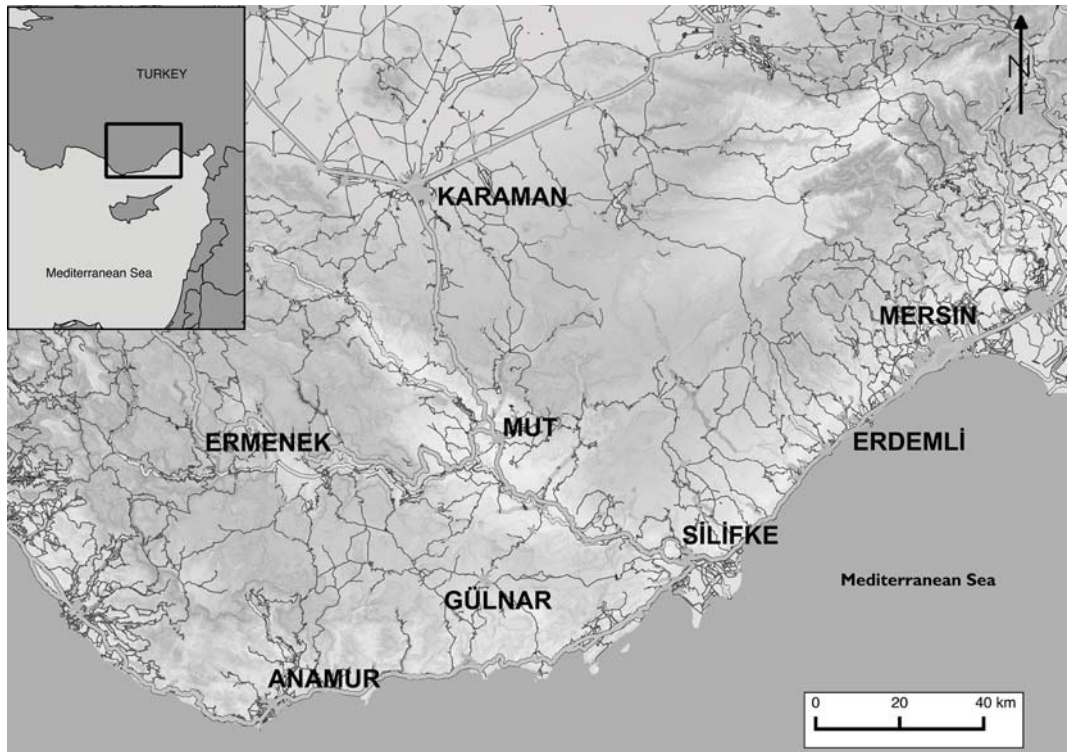


Fig. 1. Map of the Taşeli Peninsula and the Karaman Plain showing the extent and location of the project area (map by S. Eve).

The 2017 field season took place between 5<sup>th</sup> and 18<sup>th</sup> September 2017 with a small team that included Tevfik Emre Şerifoğlu (director), Naoíse Mac Sweeney (co-director), Nazlı Evrim Şerifoğlu (illustrations and photography), Stuart Eve (photogrammetry and database management), Francesco Carrer (landscape studies) and graduate student Nevra Arslan. Halil Görgülü from the Konya Regional Board for the Protection of Cultural Assets was appointed by the General Directorate for Cultural Assets and Museums, which also granted us the permit to conduct the fieldwork, as the representative of the Ministry of Culture and Tourism of Turkey during the 2017 field season of the LGASSP.

#### FINAL WORK IN THE ORIGINAL LGASSP SURVEY AREA

Within our original survey area of the Lower Göksu Valley, we undertook a range of short studies in order to supplement and complete the work of previous seasons. This included: an aerial photography operation at Kilise Tepe and photogrammetric documentation of the damaged eastern slope of Çingentepe (both located in the vicinity of Kışla Village); documentation of three new archaeological sites all located to the south of Mut town centre; and the documentation of two sites on the edges of the valley. The first of these three activities, the aerial photography and photogrammetric work, was undertaken to supplement our work in previous seasons,

will be discussed in the relevant section below. We should also note here that we also conducted geophysical investigations in the flat area to the northwest and west of Kilise Tepe in April 2017 but no details will be provided here about this work as the results are still being evaluated.

Three new sites in the area immediately south of Mut were documented in 2017, improving our understanding of this important agricultural plain at the juncture between the Upper and Lower Göksu valleys. The first of these sites was Örentepe II, located not far from the mound of Örentepe that was documented in 2014 (Şerifoğlu et al. 2015a). This site is represented by a pottery scatter in a field inside the Aşağı Deveciler village, which points to the existence of an earlier settlement at the site of the modern village that was first settled during the Hellenistic period. The other two sites are both located along the Göksu River. Selamlıtepe is a settlement located on top of a natural hill which was first settled during the Byzantine period and represents the earliest foundation of the modern village of Selamlı. However, some sherds found at the site imply that there may have been a short-lived Early Bronze Age settlement here as well. Mucuktepe is the other site in this area, which is also located on top of a natural hill (Fig. 2). The pottery sherds have shown that this settlement was founded sometime during the Middle or the Late Iron Age and was abandoned after the Byzantine period. There is a rectangular depression on top of the hill, which was probably dug here by the inhabitants to collect water for daily use.

In addition to this, we also documented two sites at the western and eastern edges of the valley. The site of Arıkuyusu, which is a settlement that spread to the slope of a hill to the west of Zeyne town centre, was first settled during the Hellenistic period but some pottery sherds found here imply that there was a Middle or Late Iron Age settlement here as well. This large site overlooking the Göksu Valley contains a stone built temple, some wall remains, many rock cut tombs, sarcophagi, and oil presses, and was inhabited until the Byzantine period. The other site, which we named Karakız referring to the name of the hill near the site, is located in the vicinity of the village of Karacaoğlu at the eastern edge of the Kurtuyu River Valley, at an altitude of 1200 meters above sea level. This settlement was also first founded in the Middle or



Fig. 2. View of Mucuktepe with Attepe in the background (photo by T.E. Şerifoğlu).

Late Iron Age and was inhabited until the Byzantine period, but some pottery sherds point to the existence of a short-lived Early Bronze Age settlement here as well. We have been informed by the Silifke Museum staff that a miniature stone axe was found at this site in the past and they believe this axe to be manufactured at a period earlier than the Bronze Age, which also supports our idea of the existence of an Early Bronze Age settlement here at Karakız.

## PRELIMINARY INVESTIGATIONS IN THE WIDER AREA I: THE COAST

The investigations conducted along the coast from Silifke to Anamur and in the vicinity of Gülnar located between the coast and the Göksu Valley were more of preliminary visits to this part of the study area for future planning, rather than a detailed and systematic work. Archaeological sites including Celenderis and Anemurium that are currently being excavated were visited, in order to get a better idea about their locations and the immediate environment, and to gather



Fig. 3. View of Nagidos from the summit of Paşabeleni hill (photo by T.E. Şerifoğlu).

some information from the excavators about the local material culture (Taylor and Alföldi 1969; Russell 1973; Williams 1989; Zoroğlu 1994; 2017). A number of sites along the coast that were studied and recorded in the past were also visited, to see if these contained earlier material, as this part of the coastal area has no sites that has been dated to anytime earlier than the second half of the first millennium BC. In 2017, we specifically focused on Nagidos, which is located on top of a hill by the coast near Bozyazı (Fig. 3; Durugönül 2007), and had the opportunity to observe a number of Middle and Late Iron Age sherds together with later material, which provided information that will be useful when studying the cultural material of the region in more detail in the future. A number of site candidates determined with the help of satellite images and topographical maps were also visited to check whether these had any archaeological material or not, but none of these locations had anything archaeological. This is an important indication that we might need to change our current methodology where the coastal areas are concerned.

Our investigations on Gülnar Plateau was also consisted of visits to site candidates determined with remote sensing. One of the new sites that was recorded by our team was a multi-period mound situated on top of a natural hill and the other was a rock-cut burial chamber, both located in the vicinity of the village of Demirözü. The pottery sherds that spread on top of the multi-period mound of Hortu Maltepe, which has numerous robber pits that destroyed the site, indicate that the site was first settled during the Early Bronze Age and was probably abandoned during the second half of the second millennium BC to be resettled during the Hellenistic period and to be inhabited until the Byzantine period (Fig. 4). On the other hand, the rock cut burial chamber is located on the road between Demirözü village and the Gülnar town center, and dates either to the Hellenistic or to the Roman period (Fig. 5).





Fig. 4. Hortu Maltepe (photo by N.E. Şerifoğlu).



Fig. 5. A rock-cut burial chamber in the vicinity of Demirözü Village (photo by N.E. Şerifoğlu).

Our team did not conduct any fieldwork east of Silifke except for a short visit to Tekirköy, which is located near the village of Esenbel not very far from Silifke. This mound was first visited and recorded by James Mellaart and then by David French, and this third visit by our team aimed at checking the current situation of this archaeological site and closely study the archaeological material it contains (Mellaart 1954: 181; French 1965: 181). The mound was badly damaged during the process of planting trees on top of it and parts of it was destroyed during the enlargement of the nearby cemetery. Our investigations confirmed that the site was first settled during the Early Bronze Age, and it was inhabited with interruptions until the Byzantine period.

#### PRELIMINARY INVESTIGATIONS IN THE WIDER AREA II: THE KARAMAN PLAIN

The work that was conducted in Karaman in 2017 mainly focused on the area surrounding Mt. Karadağ, which is located to the north of Karaman town centre. Our team also conducted some investigations at Canhasan, a famous prehistoric site that was excavated by David French in the past; and also visited two mounds in the plain to the south of Karadağ, which are close to one of the two routes that lead to the summit of Karadağ (French 1998; 2005; 2010). The concerned mounds are called Sisan Höyük and Dinek Höyük by the locals and were recorded accordingly.

Sisan Höyük, which is actually a set of three multi-period mounds located close to Kılbasan Village, was inhabited from the beginning of the Iron Age until the Medieval period. However, some sherds imply that there may have been an Early and Middle Bronze Age settlement here as well. Dinek Höyük is a smaller mound located inside Dinek Village. A mosque was built on top the mound sometime during the 1960s which damaged the mound summit. The settlement at Dinek Höyük was founded in the Middle or Late Iron Age and it was inhabited until the Byzantine period.

After the investigations at and around these two sites were completed, our team first tried to visit and document the Luwian rock inscriptions at the summit of Karadağ (Mount Mahalaç) and conduct a small scale intensive survey in this area (Fig. 6). The Luwian inscriptions, which were carved on rock later used for the construction of a Byzantine religious complex at this spot, and the architectural remains at Mount Mahalaç were first visited and documented by Gertrude Bell in the early 20<sup>th</sup> century (Sayce 1909; Ramsay and Bell 2008: 505-507) and the inscriptions have since been studied by linguists and specialist epigraphers (Hawkins 2000: plate 241, 6-7). Our team was not allowed to access this site as it is now located inside a military zone and one needs a special permit from the Turkish air force in order to see it, which we did not have at that time. This visit was rescheduled for the 2018 season and our team moved to Kızıldağ from there.

Kızıldağ and Mezelli Höyük are two archaeological sites located in the Karaman plain, just to the northwest of Karadağ (Fig. 7). Kızıldağ was also



Fig. 6. Mahalaç Peak at the summit of Karadağ (photo by N. Mac Sweeney).



Fig. 7. Kızıldağ and Mezelli Höyük (photo by T.E. Şerifoğlu).



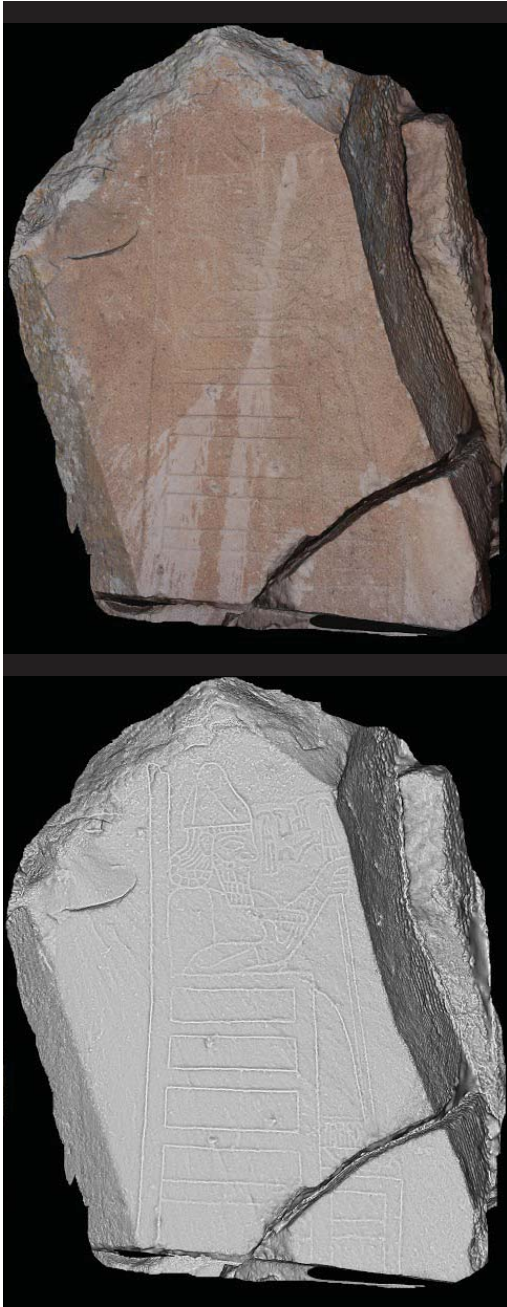


Fig. 8. 3D model of King Hartapus' monument at Kızıldağ (image by S. Eve).

visited by Gertrude Bell, who documented the rock monument of King Hartapus that depicts a king seated on a throne, the other Luwian inscriptions at this site, and the fort on top of the natural hill, and these were studied by many other scholars after that point (Börker-Klähn 1977; Gonnet 1983; Bittel 1986; Hawkins 2000: 429-442; Karağuz et al. 2002; Ramsay and Bell 2008: 504, 507-512). Our team used methods of digital photogrammetry to document the monument and the inscriptions once again and the fort was visited for a preliminary assessment as we hope to conduct more detailed investigations in this area in 2018.

The pottery sherds and the architectural remains that we observed on Kızıldağ indicate that the hill was actively used for various purposes (cultic, military etc.) from the second millennium BC until the Hellenistic and Roman periods. A rock cut burial chamber located just near the Hartapus monument most probably dates to the Hellenistic period, and inscriptions on the monument itself from the Hellenistic period have already been documented (Rojas and Sergueenkova 2014: 143-147). On the other hand, our studies at Mezelli Höyük, which is located just to the south of Kızıldağ, have shown that this mound type settlement closely connected to Kızıldağ and to the fort on top of it was first inhabited during the Middle or the Late Iron Age and was in use until the Byzantine period. Our work on and around Kızıldağ and Karadağ will continue in 2018 to better understand the settlement types and patterns in this area, the ancient land routes that interconnected these sites, and the overall archaeological landscape of this part of the Karaman Plain.



Fig. 9. Reflectance Transformation Imaging (RTI) recording of a Luwian inscription at Kızıldağ (photo by T.E. Şerifoğlu).

#### DIGITAL PHOTOGRAMMETRIC MODELLING AT KIZILDAĞ, KILISETEPE AND ARIKUYUSU

In 2017 our team also conducted a number of drone- and ground-based Structure from Motion (SfM) surveys. SfM is a photogrammetric technique that uses a collection of static images of an object or monument taken from a number of different angles and estimates the underlying 3D structure. It has been used extensively in archaeology providing a result comparable with that of 3D laser scanning without the need for expensive equipment (Howland et al. 2014).

The first of our SfM models was of King Hartapus' rock-cut monument on the slopes of Kızıldağ. Using a total of 95 photos taken from the ledge in front of the monument a detailed model was created of the main pictogram and inscription. As can be seen from Fig. 8, when compared with a simple textured photograph of the inscription, the 3D model reveals many subtle features not immediately obvious to the naked eye, including a new possible inscription near the feet of the figure. As the model itself is interactive it allows the specialists to manipulate the lighting, colour and position of the model to better read and interpret the inscriptions. Two further inscriptions were modelled on Kızıldağ, which are currently under analysis, and a preliminary Reflectance Transformation Imaging (RTI) model was created of the Hartapus monument and the inscriptions (Fig. 9). The initial RTI model revealed similar features to the SfM model, however, a more detailed RTI will be created in the 2018 season that has potential to further refine our picture of the inscription and pictography.

We also created a drone-based SfM model of the summit and slopes of Kilisetepe, completing the drone survey of the immediate hinterland we undertook in 2015. Using a DJI Phantom 2 Vision+ drone, two missions were flown resulting in a model built from 241 camera locations. Fig. 10 displays the results, with the 3D model clearly showing the remains of previous excavations on the summit, as well as the characteristic flattened top of the tepe.

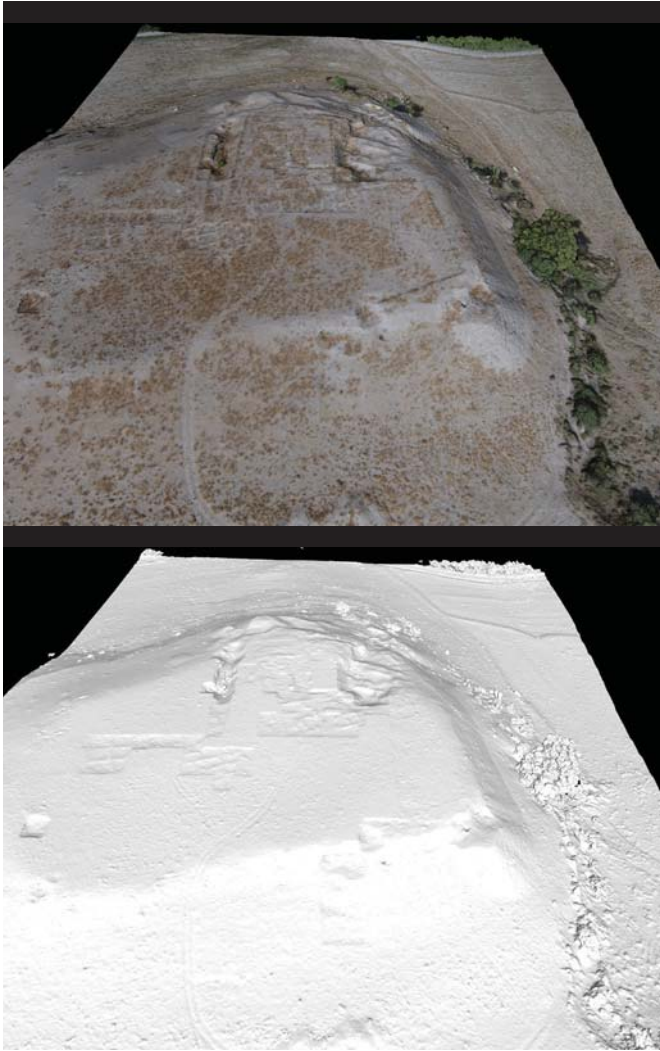


Fig. 10. 3D model of Kilise Tepe (image by S. Eve).

Our team also started working on creating a ground-based SfM model of the damaged eastern slope of Çingentepe. This slope was completely destroyed in the past with the help of machinery but this illegal work exposed the whole section of this part of the mound, which made it possible for us to observe and study the entire archaeological stratigraphy at this site. A 3D model of the slope will not only allow us to document this very informative section for posterity but also continue working on it with the help of computer software. This work could not be completed in 2017 because of time constraints and the final results will be presented only after the whole slope has been modelled following the work that will be conducted here during the 2018 season.

The final SfM model was created of the temple and surrounding architecture at the settlement of Arıkuyusu (Fig. 11). As can be seen, the temple has impressive standing architecture (in places up to 4m high) along with a wider net-

work of wall structures, rock-cut tombs, inscriptions and later agricultural interventions. A further useful product of the SfM survey is an orthorectified aerial photograph of the area, that can be used for initial identification of archaeological features in advance of a more detailed ground-based survey in 2018. A ground-based SfM survey of the temple itself was also attempted, but the presence of vegetation on the walls and the heights of some of the wall tops themselves rendered the attempt unsuccessful. Another attempt will be made in 2018, using a lower-altitude drone flight along with closer survey of the walls.



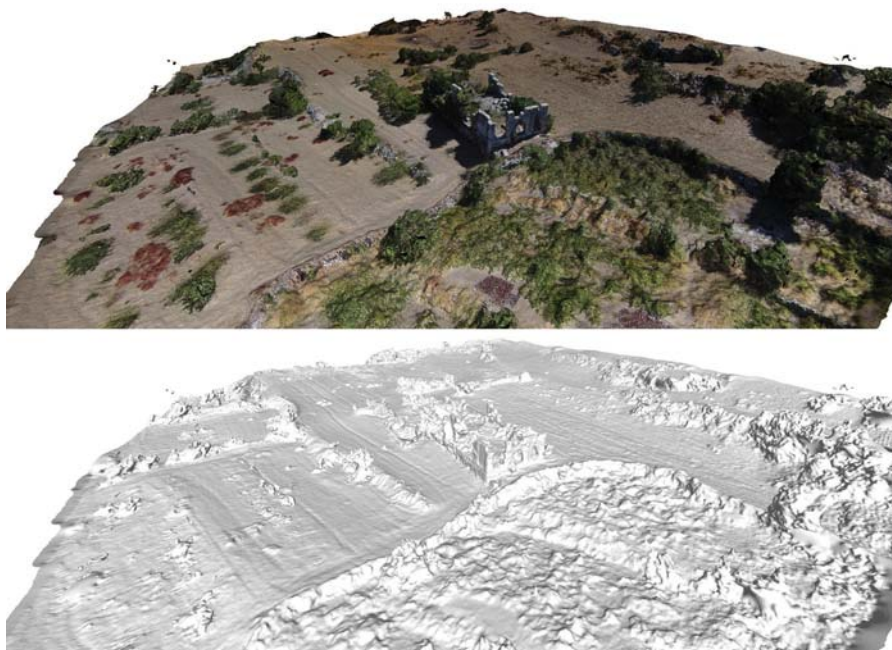


Fig. 11. 3D model of the temple and surrounding architecture at Arıkuyusu (image by S. Eve).

#### SETTLEMENT PATTERNS, AND ROUTES AND COMMUNICATION NETWORKS – SOME PRELIMINARY THOUGHTS

This transitional field season has shed new light, as well as raising new questions, about both settlement patterns and wider networks of routes and communications. We are now beginning to understand our original survey area of the Lower Göksu Valley in its wider context, uncovering more about its connections with other neighbouring areas (Fig. 12).

The basic settlement pattern in the Lower Göksu Valley seems to have persisted through many different periods of human history. In general, sites were spaced at fairly regular intervals along the main north-south route between the Mediterranean coast and the Karaman Plain, with clusters in the two main agricultural plains in the valley – the first just south and west of Mut, where the main Göksu stream is joined by the Ermenek; and the second around the modern village of Kışla, where the Göksu is joined by the Kurtsuyu. In these two zones, there appears to have been a complex settlement hierarchy, focusing on a pair of twin mound sites in each case, one on either side of the Göksu and presumably controlling an important river crossing. By undertaking more intensive survey work in these two agricultural plains, we have been able to learn more about the dynamics between sites in different periods, and the uses of land and landscape in the zones between settlement sites. As we begin to process this work and our results, we are gaining a more nuanced understanding of what now appears to be a very complex and dynamic settlement pattern in the Lower Göksu Valley. In the future, it would be interesting to see whether this pattern was unique, and to compare the settlement patterns in the Upper Göksu Valley as well as the Ermenek Basin.

When we first identified this basic settlement pattern in advance of our third field season (Şerifoğlu et al. 2016: 12), this alerted us to the existence and significance of east-west routes, and routes stretching from the floor of the Göksu Valley out on each side into the mountains. Instead of conceiving of the valley as a corridor, facilitating communication and movement in a shuttle-type form between the coast and the plateau, we started to think of the valley at the centre of a more complex web of routes, reaching out in all directions. This has since been confirmed by the discovery and documentation of more sites on the fringes of the valley, often along passes and routes through the mountains. The communication networks and routes of the Lower Göksu Valley can therefore only be fully understood in the context of the wider Taşeli Peninsula, and we look forward to exploring this further in the years to come under the aegis of the new regional landscape project.

In both cases – settlement patterns and communications networks – our work to date has identified significant changes over time. This diachronic variation will also come into sharper relief when we are able to consider it in context of wider regional dynamics. For example, we are now beginning to appreciate that the relative lack of activity in the lower reaches of the valley during the Middle Iron Age may have been offset by an increased level of activity on the coast and in the mountainous uplands between valley and coast. Over the next months as we analyse and interpret our results further, and over the next years as we embark on work in the wider region, we hope to understand more about these changes over time.

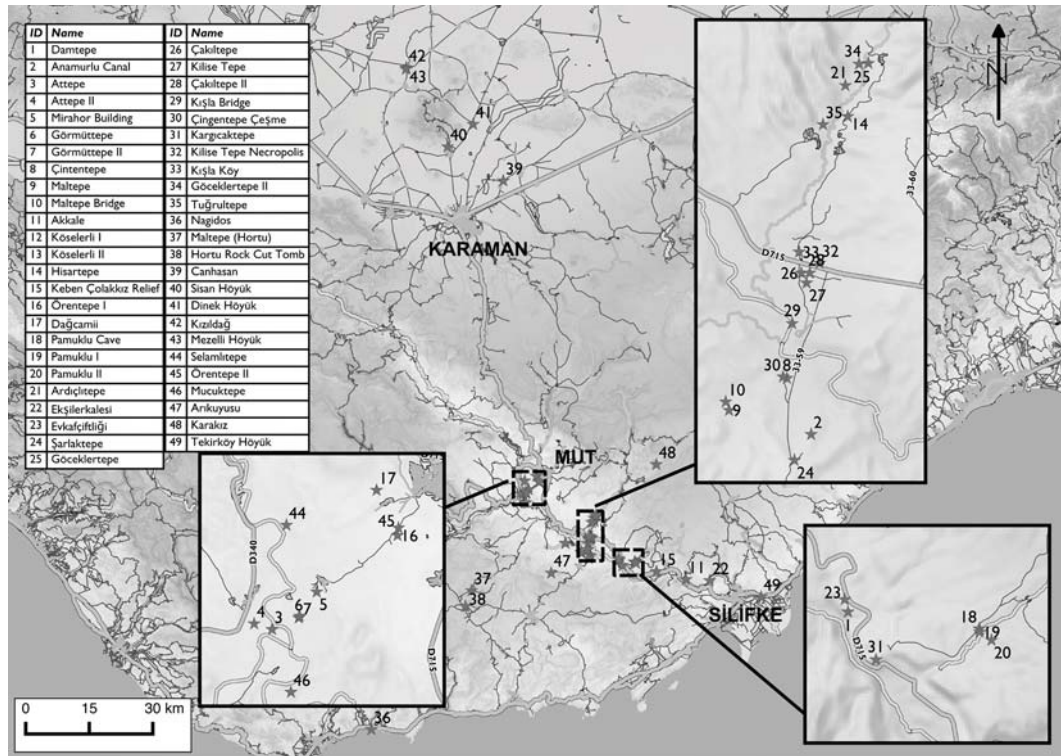


Fig. 12. Map of the project area showing all the recorded sites by the end of the fifth season (map by S. Eve).



## CONCLUSION

With the formal end of the LGASSP field project with the 2017 season, we have now begun the final processing and analysis of the LGASSP data. We aim to have most of this work completed during the course of 2018, and hope to produce a final publication of the project results in 2019 in the form of a book published in the British Institute at Ankara Monographs Series. This book will include a catalogue of all sites and monuments documented by LGASSP, as well as a series of interpretive studies on different chronological periods, as well as extended thematic and methodological discussions. The raw data from the project will also be made available through the websites of the Archaeology Data Service, and the University of Leicester's Research Archive. We hope that by making our results available as quickly and as widely accessible as possible, this information may productively be used by other scholars of both this and neighbouring regions.

The LGASSP began its work as a salvage survey, caught in a race against time to document a unique archaeological landscape before its permanent loss through flooding caused by the construction of a hydroelectric dam. Delays to the original construction schedule have allowed us more time than we had originally anticipated to conduct this work, enabling us to study some sites and zones in more detail, employing a range of intensive survey methodologies and new technologies. As well as documenting the sites under immediate threat of flooding in the expected flood zone, we have also been able to study sites within our permit area that are not expected to be submerged by the dam lake. This has allowed us to gain a more holistic view of settlement patterns in the Lower Göksu Valley as a whole.

With the broadening and expansion of our work, our project aims shifted from salvage survey and emergency documentation to the answering of research questions. Specifically, we have now been able to turn our attention to: change and continuity of settlement patterns in the valley; networks of routes and communications through the valley and linking it to neighbouring areas; and the social construction of landscape in the valley by investing certain locations with significance or sacred meaning.

This work has led, inevitably, to the need to understand the Lower Göksu Valley in its wider regional context to include the Upper Göksu Valley, the Ermenek Basin, and the Karaman Plain to the north; as well as the coastal strip to the south and the mountain uplands immediately surrounding the valley. In 2017, we were fortunate enough to be granted an expanded survey permit by the Ministry of Culture and Tourism of Turkey, enabling us to begin exploring these areas. In the coming years therefore, the core LGASSP team (Tevfik Emre Şerifoğlu, Nazlı Evrim Şerifoğlu, Naoise Mac Sweeney, Anna Collar, and Stuart Eve) will re-form under the banner of a new regional landscape project, with the aim of exploring this wider region.

## ACKNOWLEDGEMENTS

The 2017 field season of the Lower Göksu Archaeological Salvage Survey Project was also funded by the British Academy through a Newton Advanced Fellowship, as in the previous two seasons. We are also grateful to Bitlis Eren University and the University of Leicester for their ongoing institutional support, and the General Directorate of Cultural Assets and Museums for allowing us to work in the region.

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## READING THE LATE BRONZE AGE CERAMIC EVIDENCE AT UŞAKLI HÖYÜK (CENTRAL TURKEY) The pottery from the Area A test sounding

Valentina Orsi\*

### *Abstract*

*Excavations at the site of Uşaklı Höyük, on the central Anatolian Plateau, have revealed traces of a lengthy occupation ranging from the Early Bronze Age to the Late Roman periods. In particular, they have provided sound confirmation of the importance of the centre during the Late Bronze Age, when it was probably to be identified with the sacred Hittite city of Zippalanda. The Late Bronze Age monumental structures uncovered on the lower terrace and on the high mound had been markedly affected by later building activities, but a perfectly sealed sequence of materials has been revealed in a test sounding below monumental Building II, in Area A.*

*After an overview of the different contexts brought to light between 2013 and 2017 at Uşaklı Höyük, the paper discusses the Late Bronze Age ceramic evidence in the frame of the long sequence of occupation of the site and against the background of central Anatolian cultural horizons.*

*The analysis focuses on the materials from the Area A test sounding, which provide a reference post quem for the construction of the monumental Building II.*

### INTRODUCTION. THE SEQUENCE OF OCCUPATION ON THE SITE OF UŞAKLI HÖYÜK: CONTEXTUALIZING THE LATE BRONZE AGE CERAMIC EVIDENCE

The site of Uşaklı Höyük lies on the central Anatolian plateau, in the province of modern Yozgat.<sup>1</sup> It is located on the southern bank of the Eğri Oz Dere river, which flows east-west, and close to the intersection with the Kötü Dere, which runs along the western side of the site, from south to north (Fig. 1). The fertile plain, punctuated by gentle hills and stone spurs, is delimited to the south by the Kerkenes mountain (+1454 metres above sea level). As demonstrated by a regional survey conducted between 2008 and 2012 (Mazzoni, D'Agostino, Orsi 2010; Mazzoni, Pecchioli Daddi 2015; D'Agostino, Orsi 2016: 333-334), the area, probably as a consequence of favourable ecological conditions and strategic location on the north-south and east-west communication axis, attests to a long sequence of occupation, ranging from the Late Chalcolithic until the Roman and Byzantine periods.

The site of Uşaklı Höyük is composed of a high mound of *ca.* 2 hectares and a large, lower terrace, which extends over *ca.* 10 hectares to the western, northern and eastern sides of

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<sup>1</sup> <http://usaklihoeyuk.org/>

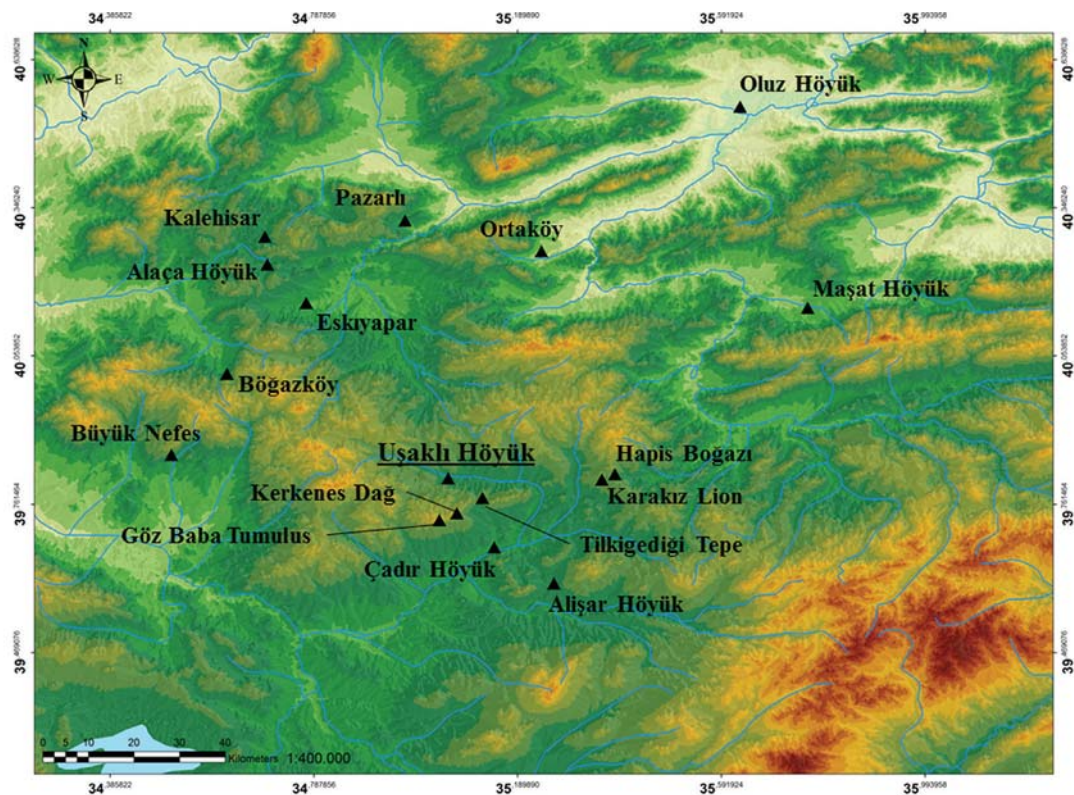


Fig. 1. Map of the Central Anatolian Plateau showing the location of Uşaklı Höyük.

the mound.<sup>2</sup> The high mound settlement was founded over a natural spur. It arises roughly 11m above the surrounding plain, which is approximately 1116 meters above sea level on the southern side of the höyük, and probably declines toward the eastern side.<sup>3</sup>

Upon accomplishment of a 5-year program of intensive surface investigations (Mazzoni, Pecchioli Daddi 2015), since 2013 the site has been the object of yearly archaeological excavations by a team directed by Stefania Mazzoni.<sup>4</sup> Between 2013 and 2017, the excavations have concentrated on the eastern side of the lower terrace, where areas A (2013-2017) and B (2015) are located; on the south-eastern slope of the high mound, where area C (2014-2015) is located, and on the southern slope of the high mound, in area D (2015-2017).

<sup>2</sup> See Mariotti 2015: fig. 1-3 for the topographic map of the site and DEM reconstruction.

<sup>3</sup> The virgin soil was brought to light on the southern side of the high mound during the excavation of Area D in 2015 at 1127 metres above sea level. In the same year, the virgin soil was brought to light in Area C, on the south-eastern side of the mound, at 1124m.

<sup>4</sup> Specific mention should be given to Alessandro Salotti (2014-2017 excavation seasons), Anete Mezmaca (2015-2017 excavation seasons), Giacomo Casucci and Sabina Calderone (2016-2017 excavation seasons), who in these years contributed to the work on the pottery with enthusiasm and dedication. With regard to the present paper, special thanks go to Alessandro Salotti, who compiled the descriptions in the pottery catalogue; to Anete Mezmaca, for chart revisions; and to Giacomo Casucci, for data entry.



Archaeological investigations and epigraphic evidence, which suggest an identification of Uşaklı with the ancient city of Podanala (Strobel 2002: 26-27), testify to the importance of the site in 'late' periods. As demonstrated by excavations in area B, the extensive structure of Building I, detected through geophysical investigations on the eastern sectors of the lower terrace (Mazzoni 2017: fig. 5), is probably to be attributed to a late Roman phase (Figs. 2a, 3). To the same 'late' chronological range may probably be attributed some structures on the north-western sector of area A, uncovered in square J18-A1 during the excavation season 2014 (Fig. 3), and some phases of re-use of area A-Building III, as demonstrated by 2016 excavations in the squares J18-A3 and K18-A4 (Mazzoni, D'Agostino, Orsi *in press b*).

Major efforts, however, have been devoted in these years to the investigation of the Iron Age and, in particular, of the Late Bronze Age periods, the archaeological evidence for which has largely been uncovered in areas A, C and D. Evidence of the Iron Age occupation on the site derived chiefly from excavations on the slopes of the high mound, which was the object of extensive building activities aimed at the strengthening and fortification of the acropolis area (areas C and D). In addition, small stone buildings of probable domestic character have been brought to light in Area D, on the southern slope of the höyük, and date back to the Middle Iron Age.

It is in the course of the Late Bronze Age that the site should have experienced one of its most important phases of flourishing. In fact, it was probably to be identified with the ancient city of Zippalanda, sacred to the Storm-god, and must have played an important role in the administrative and political organization of the Hittite empire (Pecchioli Daddi, Torri, Corti 2014; Pecchioli 2015; Archi *et al.* 2015; Poetto 2015; Torri 2015). The remains of large, well-dressed stone buildings emerging on the surface of the lower terrace, which had already attracted the attention of different scholars (Summers *et al.* 1995: 56-58; Corti 2010; Mazzoni 2015), together with the abundance of pottery types distinctive of central Anatolian Hittite centres recovered during the surface survey (D'Agostino, Orsi 2015; Summers *et al.* 1995: 56-59), had already evidenced the relevance of the site during this phase. Additional and more substantial evidence has been gathered by excavation which, to date, have revealed two monumental buildings: Building III, in area D (Fig. 2b), and Building II, in area A (Figs. 2a, 3-4) (Mazzoni, D'Agostino, Orsi *in press a*).

The Iron Age severely affected the remains of the Late Bronze Age city: pits of various sizes were cut through the floors of Building III, while the walls of Building II, in all likelihood, were partially dismantled during the same period for the construction of the nearby stone *glacis* that has been uncovered in area C. In the same area, earthen debris and fired bricks deriving from Late Bronze Age structures were employed in order to build up the rampart (D'Agostino, Orsi 2018: 489-490).

Only a limited number of pottery sherds, mainly of very small size, has been recovered on the floors of Area D-Building III, while a large inventory derives from the foundations levels. This consists of ceramic types distinctive of different chronological periods: it includes handmade Early Bronze Age types, Assyrian colony and Old Hittite period types, and different morphologies, mainly pertaining to the Late Bronze Age period, that are characterised by a long continuity along the Hittite ceramic sequences (Orsi *in press*). The secondary nature of the



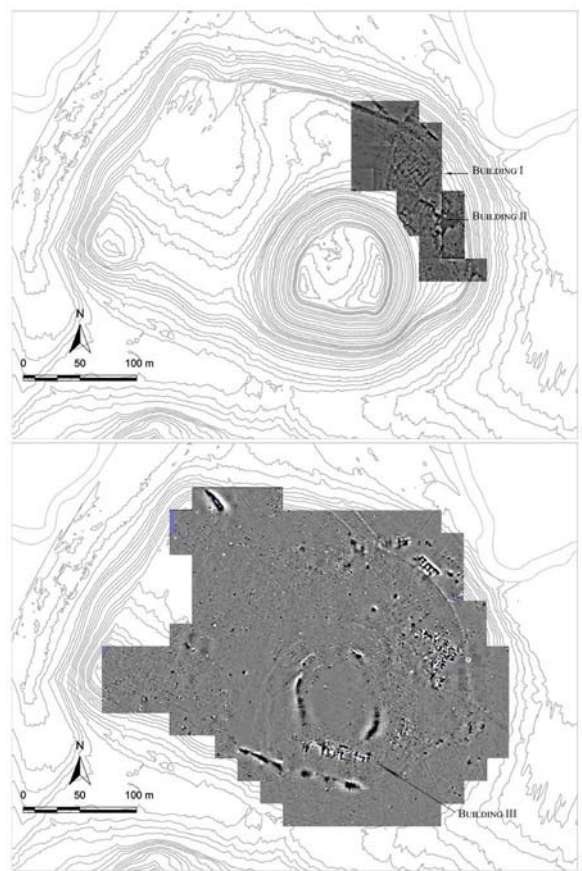


Fig. 2. Results of the geophysical investigations: a) Geoelectric anomalies; b) Geomagnetic anomalies (adapted by the author from a base by E. Mariotti and G. Carpentiero).



Fig. 3. Panoramic view of the South-Eastern part of the terrace, from West, and location of investigated areas.

recovery context would affect the potential use of statistics aimed at placing the *corpus* within the central Anatolian ceramic sequences. The most recent typologies attested in these levels might instead supply a useful reference *post quem* for the construction of the building, but the recovered types bear too marked a continuity in the ceramic sequences of the central Anatolian sites to provide precise data.

From the layers of the Iron Age rampart in area C derives another large set of intrusive Late Bronze Age potsherds, which are mainly associated with the ashy strata that constitute the main bulk of displaced earthen fillings composing the rampart. The Late Bronze Age ceramic inventory has already provided us with some very interesting pieces of information, especially concerning the presence of imported fine wares at Uşaklı Höyük (Orsi *in press*), but the potential presence of Iron Age potsherds in the same stratigraphic units imposes noticeable caution to any analysis.

#### AREA A

A similar situation is registered in the superficial layers of Area A Building III. Of the extensive building, the planimetry of which has been quite clearly detected through resistivity investigations (Fig. 2a) (Mazzoni, D'Agostino, Orsi 2010: fig. 10; D'Agostino, Orsi 2016: fig. 2d-e), only the large stone groundwork was preserved (Mazzoni, D'Agostino, Orsi *in press a*). Flimsy traces of floors, almost clean of materials, have been uncovered in some areas of the north-western sectors and, overall, represent the sole, scanty primary evidence of what might have been the original phase of use of the structure.<sup>5</sup> In fact, after its primary use, the structure probably remained exposed for a long span of time. A few minor walls made of irregular stones and small installations testify to some form of occupation of the ruins in later periods, probably during the Iron Age, while a more substantial reoccupation of the area, mainly in the northern and north-western sectors, is probably to be attributed to the Roman or Late Roman periods, when the groundwork of the Building II was used as a base for the new walls.

The ceramic inventory recovered from the superficial layers of area A as well as from the fillings among the walls, is, in fact, largely mixed. A large portion of the ceramic *corpus* is to be ascribed to the Late Bronze Age, but a comparable component belongs to painted and burnished Iron Age pottery types, intrusive Early Bronze Age and Transitional Period red slipped and geometrically painted types, and types belonging to the 'Late' periods (Orsi *in press*).

#### AREA A TEST SOUNDING

In 2013, the stratigraphy below Building II was investigated in a test sounding excavated in room 126 (square J19-B4), in the north-eastern sector of the building (Figs. 4-5)

<sup>5</sup> It is not possible to tell with certainty at this stage of research if these traces must be ascribed to the phase of primary use of the building or to a later phase of re-use. The ceramic inventory of the levels below, which have been only partially investigated, is still being studied.



Fig. 4. Plan of Area A, Building II (excavations 2013-2015) and location of the test sounding.

(Mazzoni, D'Agostino 2015: 167-169; D'Agostino, Orsi 2016: 345). The sounding, which exposed an area of ca. 2.50x1.50 metres at the top and of ca. 1.3x1.2 metres at the bottom, reached a depth of ca. 3.90 metres from the top of the building walls, where it was suspended. Under the large stones of the walls, a series of clayish and sandy layers were uncovered (US 23, 24, 25 36), for a depth of 1.80 metres. A thin, beaten floor (US 40) was sealed by the fillings, and was laid over a series of eight superimposed cobbled pavements (US 41, 52,

54, 66, 70, 72, 74, 77), each separated by thin clayish fillings (US 44, 53, 61, 69, 71, 73, 76) (Fig. 5). The limited extension of the exposed area might affect the interpretation of the context, but the marked similarity of each cobbled floor, each made of comparable small- and medium-sized pebbles, as well as the plain resemblance in texture and consistency of the earth layers, seems to point to a single set of operations to reconduct to an intentional filling. An interpretation of the context as a result of subsequent planking levels, each in use at different times, cannot be excluded, but it appears quite unlikely. In addition, the quality of the ceramic inventory associated with the different stratigraphic units, which show a similar distribution of functional ceramic classes, wares and chronological types, would seem to confirm the first hypothesis.<sup>6</sup> This operation was presumably aimed at levelling and strengthening the ground for the construction of Building II, but an additional cultural value may also be hypothesised (D'Agostino, *in press*).

### Pottery from the Area A test sounding: methodological approach

Considering the compromised stratigraphy of Area A with regard to the primary contexts of Late Bronze Age date, the pottery inventory from the test sounding, especially in terms of chronology, is of key interest. Being related to a perfectly sealed archaeological context, in fact, it may supply a sound reference *post quem* for the construction of Building II.

Of major notice in this respect, is the pottery which derived from the beaten floor, the eight planking levels and from the thin, intermediate fillings. These stratigraphic units yielded a total of 550 ceramic potsherds for a cumulative mass of 12 Kg (Charts 1 and 2a). Among these, 97 are diagnostic potsherds and 453 have been sorted out as generic potsherds. The percentage of diagnostic items based on the sum of sherd number represents only the 18% of the assemblage, but the rate rises to the 32% based on the sum of sherd weight. This may reflect the fact that many small and very small ceramic fragments, which are responsible for the increase of potsherd number, are usually ascribed to the category of generic potsherds. At the same time, items considered diagnostic are usually more extensively preserved than generics and consequently, on average, an estimate of diagnostic sherds based potsherds weight is higher than an estimate based on potsherds number.

Although diagnostic potsherds, which include fragments comprehensive of rim, base, decoration or plastic element, constitute the most informative sample, generic potsherds, which mainly include undecorated body-sherds, also provided us with valuable sets of data that have been positively integrated with those provided by diagnostic potsherds.<sup>7</sup> Diagnostic potsherds analysis, in addition to a larger set of information provided, may be considered more accurate if compared to generic potsherds analysis by virtue of the higher level of legibility of the items. The sample of reference, however, is usually more limited. Generic potsherds analysis, on the

<sup>6</sup> On the basis of a preliminary analysis, in fact, no coherent chronological evolution is apparent in the sequence of layers, while the distribution of types belonging to different chronological spans appears rather irregular. At the same time, no assemblage connected to the different stratigraphic units bears traces of specific and distinct functional characterization.

<sup>7</sup> For a detailed definition and evaluation of the two groupings of diagnostic and generic potsherds see D'Agostino, Orsi 2015: 42.



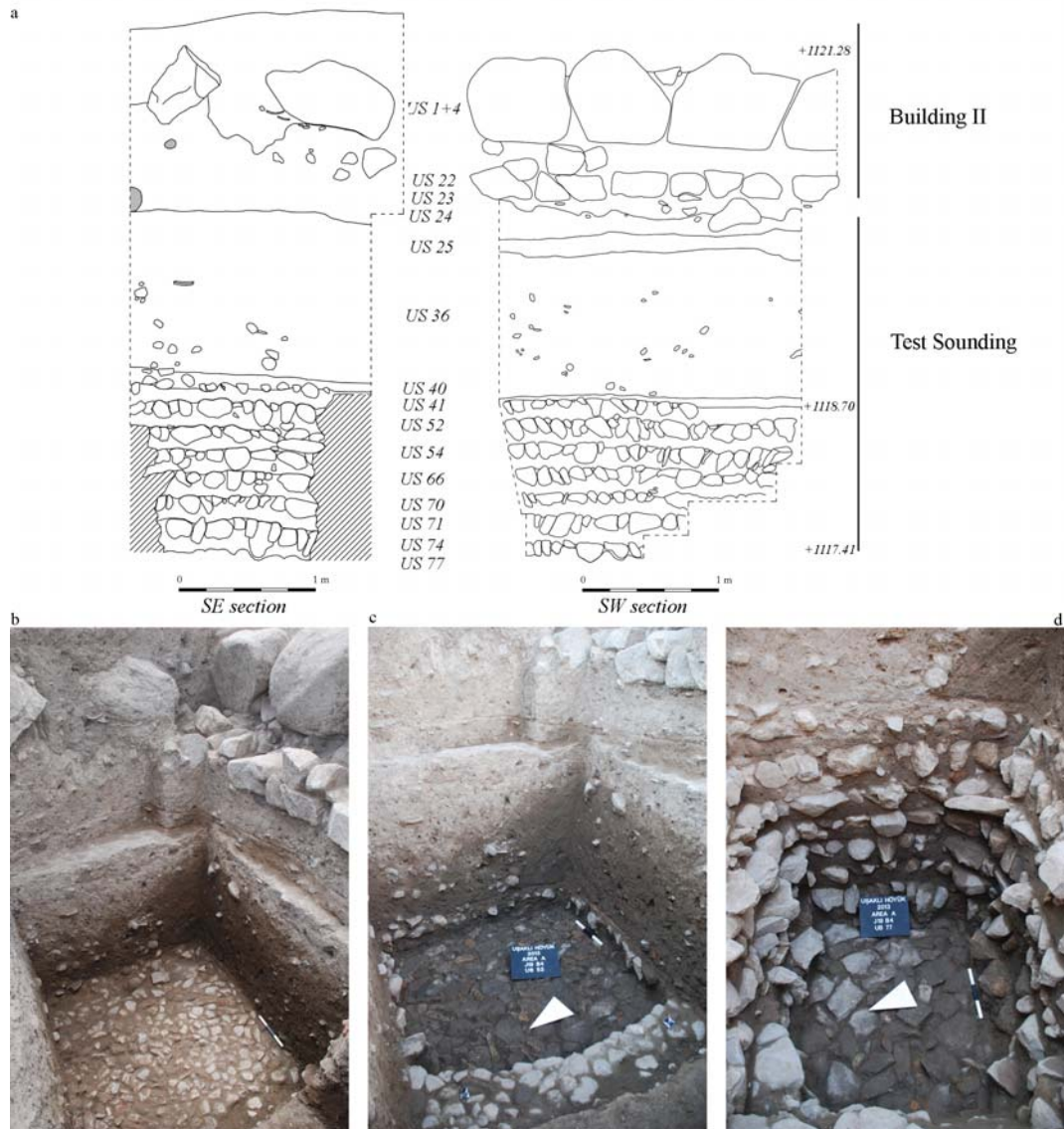


Fig. 5. The test sounding below Building II, in Area A: a) Sections; b) View of the cobbled floor US 41, from North-West; c) View of the cobbled floor US 52; d) View of the sequence of floors and the base of the sounding (US 77).

other hand, may be less reliable, especially in the case of poorly preserved fragments, but this aspect is partially offset by the larger scale of the sample.

A few divergences in the two sets of parameters seem to be related to both registration systems in use at Uşaklı (for which see D'Agostino, Orsi 2015) and the specific quality of the local ceramic production. The fact that the rate of kitchen ware is slightly higher in the set



of diagnostic potsherds than in the set of the generics, for example, might be evidence that the morphology and state of preservation of the potsherds play a more important role in the recognition of this ceramic class than in others, and that a quick autoptic analysis of fabrics, as a consequence of the close similarity of technological aspects, may be inadequate in making sound identification (see Diagrams 1 and 3). In addition, the inverse rates, with respect to that of kitchen ware, of common ware and of plain ware, which are higher in the set of generic potsherds and lower in the set of the diagnostics, might reflect the possibility of misinterpretation of the two ceramic classes when analysing generic potsherds.<sup>8</sup> Similarly, the lower rate of handmade potsherds (red slip and plain handmade wares) in the set of generics with respect to the set of diagnostics, might be connected with an intrinsic difficulty of the identification of handmade products in the case of poorly preserved potsherds. Divergences in the distribution of painted wares, instead, are simply related to the registration system, and do not affect the interpretation of the ceramic evidence.<sup>9</sup>

Major evidence provided by generic potsherds relates to the distribution of general functional categories and wares. A macroscopic classification of the vessel's intended use based on the analysis of wall thickness, shape and technological attributes of the fragments has been employed to detect general functional contexts of reference to which the potsherds might have been related (Diagram 1, Chart 2).<sup>10</sup> The common ware, which reflects the largest spectrum of activity, is the most frequent class of pottery, but also the frequency of kitchen/cooking ware, which relates to a more circumscribed functional context, is relatively high. The incidence of storage and fine wares, instead, is markedly limited. Generic potsherds are furthermore classified according to wares, which, with the exception of a few cases such as those observed with regards to kitchen and plain wares, may be identified with moderate accuracy (see Diagram 3 and diagrams 4a, 5a and 6a).<sup>11</sup> Plain ware, which is characterised by a bare surface, with no coat or painted decoration, is by far the most common category. Kitchen ware and red slip ware are also well attested, while other typologies, including white and yellowish slip ware, brown slip ware, painted ware and handmade wares have only a very low incidence. A single body-sherd of Red Lustrous Wheelmade Ware (or 'orange fine ware' in Uşaklı registration code) has been recovered from this context<sup>12</sup>. The classification of ceramic wares of diagnostic and generic samples is also the basis for a statistical evaluation of the chronological distribution of the potsherds (see Diagram 2, Charts 3a, 4 and 5), a detailed overview of which is given below.

<sup>8</sup> To sum up, this might be the evidence, within the *corpus* of generic potsherds, of a slight underestimation of kitchen ware rates in favor of a slight overestimation of the common and plain wares categories.

<sup>9</sup> On the basis of the registration system in use at Uşaklı, in fact, decorated potsherds are automatically sorted into the group of diagnostic potsherds.

<sup>10</sup> For a description and definition of this classification see D'Agostino, Orsi 2015: 43; Orsi *in press*. A more detailed analysis was not considered profitable at this stage of the study. Additionally, the dataset relates to a secondary context of recovery which includes samples belonging to different periods. For a comparison with other sectors of the site, see Orsi *in press*.

<sup>11</sup> With regard to the use of the term 'ware' at Uşaklı Höyük, see D'Agostino, Orsi 2015: 46-47. For a detailed description of the wares of reference see D'Agostino, Orsi 2015: 58-96.

<sup>12</sup> A larger number of Red Lustrous Wheelmade Ware potsherds came from Area C (D'Agostino, Orsi 2018: 490 and fig. 6; Orsi *in press*). Additional potsherds have been uncovered during the surface survey (D'Agostino, Orsi 2015: 69-70).

### The inventory of diagnostic pottery

If the interpretation of the archaeological context is correct, the potsherds recovered from the different stratigraphic units of the test sounding sequence must have entered their last position in the archaeological record in a relatively short span of time, but they relate to a secondary context of deposition.<sup>13</sup>

Therefore, we have no way of knowing if and which of the original vessels were in use at the same time, or belonged to the same primary context. The ceramic assemblages of the different stratigraphic units of the sounding are, in fact, largely mixed, including types characteristic of distinct chronological horizons and, consequently, of different primary contexts.

According to a statistical evaluation of the chronological distribution of the diagnostic potsherds (Diagram 2), *ca.* 91% of the potsherds belongs to Middle and Late Bronze Age ceramic horizon, while about 9% may be related to earlier periods. On these premises, the focus of the analysis has been directed toward identifying of the most recent set of materials, which is the most indicative as a chronological reference in the investigation of the building process. With regard to more accurate chronological distinctions, due to the marked continuity observed in Anatolian ceramic productions, and especially in the Hittite period, a quantitative/statistical approach in ceramic analysis have provided more reliable results than qualitative approaches (Schoop 2006; Schoop 2009: 147; Mielke 2010). While a detailed statistical examination based on the ceramic types is currently under way, a preliminary evaluation of the possible chronological range of attribution of the ceramic assemblages from the different stratigraphic units has, however, been based on ceramic comparisons.<sup>14</sup>

With regard to the ceramic production of the Hittite period, a general subdivision of the Hittite ceramic sequence into three parts has been adopted by W.-D. Schoop (Schoop 2011: 242-243). According to this system, which is not to be confused with the historical and philological sequences and terminologies<sup>15</sup>, the 'early' stage of the Hittite ceramic sequence may



Fig. 6. Area A: Coarse Plate U13.756, from the test sounding in room 126, detail of the surface appearance, with rilling marks and digits on the left side (= Pl. 3: 5).

<sup>13</sup> Additional evidence in support of this interpretation, is given by the average state of preservation of the potsherds, which are mainly of medium-small size.

<sup>14</sup> For an overview on the state of the art with reference to the main sites of comparisons, see D'Agostino, Orsi 2015: 166-180. Additional sets of materials have been provided by recently published works, including: the publication of the pottery from the Building B of Kayalıpınar (Mühlenbruch 2014), which covers a sequence ranging from the Old Hittite to the Early Imperial period (*ca.* 2<sup>nd</sup> half of the 17<sup>th</sup> cent.-14<sup>th</sup> cent. BC); the overview of the Late Bronze Age pottery production of Oymaağaç Höyük/Nerik (Mielke 2016a); the publication of the pottery from the Intermediate Plateau at Boğazköy Western Upper City (Gruber 2017; Gruber, Radezky 2017); and the account of the pottery sequence from Yenikale, at Boğazköy Upper City (Öğüt 2016). As for cross studies on the Hittite pottery production, of particular interest are Glatz 2015; Mielke 2016b and Mielke 2017.

<sup>15</sup> See Schoop 2011: 242, note 2.



Fig. 7. Area A: Coarse Plates U13.701 (= Pl. 3: 4) and U13.702 from the test sounding in room 126, detail of string impressions.

be roughly equated with the 17<sup>th</sup> and the beginning of the 16<sup>th</sup> centuries; the 'middle' stage with the 16<sup>th</sup> and 15<sup>th</sup> centuries, and the 'late' stage with 14<sup>th</sup> and 13<sup>th</sup> centuries BC. Also different periodization schemes, however, emerged from the analysis of the local sequences at specific sites: within the ceramic sequence of the West Slope at the site of Kuşaklı/Sarissa, for example, a series of horizons have been recognised: an 'early' *Westhang* ceramic horizon, which corresponds to the second half/late 16<sup>th</sup> century BC; a 'middle' *Westhang* ceramic horizon, which corresponds to the 15<sup>th</sup> and 14<sup>th</sup> cent. BC, and a 'late' *Westhang* ceramic horizon which corresponds to the first half of the 13<sup>th</sup> cent. BC (Mielke 2006: 170).

Although not homogeneous, the ceramic inventory from the test sounding is, for the most part, composed of typical Late Bronze Age typologies (Pls. 1-3; Figs. 6-7).

Coarse, large plates with banded rim (Pl. 3; Figs. 6-7) are well attested. Since they count among the most frequent pottery types at different Hittite sites (Mielke 2006: 129, 134), and since they seem to widespread starting exactly from the early Hittite stage, without direct antecedent during the Assyrian colony period,<sup>16</sup> they are considered one of the most characteristic Hittite ceramic products (Mielke 2006: 134). The fabrics of the samples from Uşaklı are characterized by medium-coarse and coarse texture, low density (high porosity) and poor sorting, with high frequency of medium and large size mineral inclusions of various quality. Although not all the sherds bear evident traces of secondary fire that might be related to the phase of use of the vessel, the loose, coarse fabrics with large inclusions seem to be well suited to resisting to high thermal stress and appropriate for activities involving the use of heat<sup>17</sup> (Rice 1987: 105-106, 229-231, 367-368). Baking functions, in fact, are hypothesised as the most probable (Schoop 2011: 247; Bittel 1936: 47, Müller-Karpe 2002: 261), although primary or secondary use as lids has been also proposed (Özgüç 1982: 24; Mielke 2006: 129-130). A find from Bogazköy-Büyükkaya, in addition, attests to the use of a large, banded plate as a device to support a small, portable oven (Seeher 1995: 610; Schoop 2011: fig. 2). The plates from Uşaklı frequently bear the traces of string impressions on the outer side of the rim (Fig. 7), evidence of a phase of a long forming process. Experiments aimed at reconstructing the *chaîne opératoire*, in fact, suggested a relatively long handmade process (Mielke 2006: 130-133 and fig. 132; Mielke 2017: 134-136). On the base of this evidence, D.-P. Mielke hypothesises that registration of

<sup>16</sup> A hypothetical evolution of the type, however, is conjectured starting from flat based backing 'trays' that are attested in Anatolia from the Late Chalcolithic period on (Mielke 2006: 127-128).

<sup>17</sup> Note, however, that the coarse fabric and the abundance of inclusions in the temper of these pottery types have also been explained in relation to the forming process (Müller-Karpe 1988: 127).

comparable shapes at different sites as wheelmade,<sup>18</sup> might be more probably connected with a phase of surface finishing after the hand building (Mielke 2017: 136). The presence of concentric lines commonly related to the use of wheel-devices has been observed also on the surface of different samples from Uşaklı Höyük, confirming this possibility.<sup>19</sup> In the sherd U13.756 (Fig. 6), in particular,<sup>20</sup> together with finger-prints (on the left), rilling lines are clearly visible on the upper side of the vessel. The dating of the shape ranges from the Old Hittite to the Empire Period: it decreases and tends to disappear toward the end of the Hittite ceramic sequence, mainly substituted by slightly deeper shapes, usually classified as bowls, with less pronounced or absent thickening of the rim (Müller-Karpe 1988: 127; Schoop 2003b: 173; Mielke 2006: 136 and fig. 134). Statistical analysis of selected contexts from Boğazköy revealed a tendency toward increasing diameters, rim length and, to some extent, use of the string, culminating at the turn from 15<sup>th</sup> to 14<sup>th</sup> century (Schoop 2006: 231): the majority of the samples from the sounding in Area A, having a rim length between 6 and 7 cm, corresponds to variants which were more widespread between 15<sup>th</sup> and 13<sup>th</sup> century BC (see Schoop 2006: fig. 16A), but the long life of the type prevents it from being a good chronological indicator within the Hittite ceramic sequence.

While the coarse plates may be generally associated with the kitchen (or cooking) ware, which accounts for *ca.* 24% of the 2<sup>nd</sup> millennium BC ceramic inventory, most of the ceramic samples from the sounding belong to the plain (unslipped) ware, which accounts for *ca.* 55% (see Diagram 4, Charts 4-5)<sup>21</sup>. The vast majority of the recovered plain ware potsherds belong to open shapes. Hemispherical bowls with relatively thin sides are well attested. The shape derives from handmade late Early Bronze Age prototypes (Schoop 2009: fig. 4: 1) that, starting from the Assyrian colony period, continue to be produced on the wheel (Schoop 2009: fig. 5: 1). Pointed rim types such as those in Pl. 1: 1-2 at Boğazköy are attested in contexts dating from the 18<sup>th</sup> to the 13<sup>th</sup> century BC, but seem more numerous after the 16<sup>th</sup> century BC (Schoop 2006: 227 and fig. 7A, bowl type G; Schoop 2009: 151). A comparable range is attested at Kuşaklı/Sarissa where similar morphologies, although attested for the entire sequence of the West Slope, are particularly widespread in the local early and intermediate stages, dating from the 16<sup>th</sup> to the 14<sup>th</sup> century BC (Mielke 2006: pl. 57, type S12a).<sup>22</sup> The same chronological span is attributed to flattened and thinner variants, characterized by a turning inwards of the very upper section of the vessel walls (see here Pl. 1: 8-9).<sup>23</sup>

<sup>18</sup> So as in Manuelli 2013: 109-118, as quoted by Mielke 2017: note 66. But see also Bittel 1936: 46.

<sup>19</sup> See also D'Agostino, Orsi 2015: 106-107 for the material of the surface survey.

<sup>20</sup> But see also Orsi *in press*: fig. 107 (Uşaklı Höyük, area C).

<sup>21</sup> The group of the plain ware here also comprises the potsherds registered under the label of 'drab ware' in the analysis of the surface survey inventory (D'Agostino, Orsi 2015: 61-64), where the use of this term was essentially aimed at an immediate differentiation of plain ware more probably of Hittite period from plain wares related to other chronological spans. For the use of this term in the archeological literature see Schoop 2011: 242; Mielke 2017: 130, note 42; Orsi *in press*.

<sup>22</sup> Regarding the bowl type S12 and related variants, see also Müller-Karpe 1988: 118; Mühlenbruch 2014: 99-103; Parzinger, Sanz 1992: 60, type I1.2; Fischer 1963: 65, '*feinen Schalen*' and '*Schalen mit runder Lippe*'.

<sup>23</sup> Compare with Mielke 2006: pl. 57, type S12c; pl. 59: 9, type S12g; pl. 59: 39, type S12h.

Curved bowls with slightly inturned or inside thickened rim, in general, appear among the most frequent open shape variants. This typology is largely widespread in central Anatolia over a long span of time. The large bowls with thick walls and inside thickened rim (see here Pl. 1: 7, but see also Orsi *in press*: fig. 84: 8-9, Uşaklı Höyük, Area D, and fig. 106: 4-5, Uşaklı Höyük, Area C) are attested throughout the entire Hittite ceramic sequence of central Anatolian sites (Mielke 2006: type S1; Schoop 2006: fig. 4A and fig. 6; Schoop 2008: 47 and figs. 3-4). At Boğazköy (Upper City, period 3)<sup>24</sup> and Kuşaklı/Sarissa West Slope (*mittlerer Horizont*) they are particularly widespread between the Middle Hittite and the Early Imperial period (15<sup>th</sup>-14<sup>th</sup> cent. BC), but they are widely attested even earlier, including the Assyrian colony and Old Hittite periods (Mielke 2006: 108 and notes 407-408).

Although attested by sherds that are frequently poorly preserved, as is quite comprehensible in such a secondary context of retrieval, similar small and medium size variants are quite numerous and, to a certain extent, heterogeneous (Pl. 1: 3-6). They are mainly differentiated from each other by slight modifications in rim profiles and sizes but, overall, they correspond to one of the most widespread Late Bronze Age central Anatolian ceramic type, the climax of which is attributed to the 15<sup>th</sup>-14<sup>th</sup> cent. BC.<sup>25</sup>

Different types of bowls with straight, very open sides and outside bevelled rim are also attested (Pl. 1: 10-12). Some variability is recorded in diameters, which may be large or intermediate, and in the profiles of the rim, which may be either simple (Pl. 1: 12) or more or less thickened on the inner side (Pl. 1: 10-11). Comparable products are common at Hittite sites: their range of attestation is rather long, spanning from the 16<sup>th</sup> to the 13<sup>th</sup> century BC, but the bulk of frequency is located between the intermediate and late phase of the sequence (15<sup>th</sup>-14<sup>th</sup> or 13<sup>th</sup> century BC). Some of them (see spec. Pl. 1: 11-12), in fact, find good comparisons with variants belonging to the group of medium and small size bowls with inside thickened or inverted rim which compose the most widespread morphology of Kuşaklı/Sarissa West Slope (Mielke 2006: 118, type S5)<sup>26</sup> and of Boğazköy Upper City, Period 3 (Müller-Karpe 1988: 106, type S5),<sup>27</sup> attested from the 16<sup>th</sup> to the 13<sup>th</sup> century and with major distribution between 15<sup>th</sup> and 14<sup>th</sup> centuries.<sup>28</sup> Some minor similarity, in addition, is visible with the group of the large bowls with curved sides and simple rim identified as type S2 at Kuşaklı/Sarissa and

<sup>24</sup> See Müller-Karpe 1988: tab. 29, type S1.

<sup>25</sup> Medium and small size bowls with inside thickened or inverted rim, for example, constitute the most widespread ceramic type in the sequence of the West Slope at Kuşaklı/Sarissa, where they represent 41.3% of the bowl inventory and 15.64% of the whole inventory (Mielke 2006: 118, type S5). Comparable percentages are reported for period 3 at Boğazköy Upper City (Müller-Karpe 1988: 106).

<sup>26</sup> See Mielke 2006: type S5h, and spec. pl. 53: 25-26; type S5l, pl. 54 10-13, and spec. n. 13.

<sup>27</sup> See Müller-Karpe 1988: pl. 35, type S5, and spec. type S5h, nos 8, 12, 15, 19.

<sup>28</sup> Type S5 at Kuşaklı/Sarissa is attested throughout the entire sequence of the West Slope (late 16<sup>th</sup>-13<sup>th</sup> cent. BC), with bulk of attestations attributed to the intermediate ceramic horizon (15<sup>th</sup>-14<sup>th</sup> cent. BC) (Mielke 2006: annex 6). In the sequence of Boğazköy Upper City it is attested in both periods 3 and 2 (15<sup>th</sup>-13<sup>th</sup> cent. BC), with the majority of attestations in period 3 (15<sup>th</sup>-14<sup>th</sup> cent. BC) (Müller-Karpe 1988: 106).



Boğazköy Upper City (Mielke 2006; Müller-Karpe 1988);<sup>29</sup> with the similar variant S3,<sup>30</sup> and with the group of medium and small size bowls with curved, open sides of type S4.<sup>31</sup> With the exception of type S2, which has been found also in the earlier stage of the local sequence at Kuşaklı/Sarissa (16<sup>th</sup> cent. BC), they all have a distribution range spanning from the 15<sup>th</sup> to the 13<sup>th</sup> century BC and are considered particularly typical of the late stage (13<sup>th</sup> cent. BC).

While the shallow bowls largely bear simple-inturned or inside thickened rims, thus engendering a sort of anti-splash device, deeper vessels are characterised by outside thickened rims, providing a strengthening of the mouth border (Pl. 2: 1-4). Amongst these, the wide-mouthed pots with outside thickened rim (Pl. 2: 1-2) find comparisons with morphologies attested throughout the entire Hittite ceramic sequence, with forerunners in the Assyrian colony period; the deep vessels with funnel shaped or straight sides neck (Pl. 2: 3-4), have a slightly later range of attestation, attributed to the intermediate and late stages of the Hittite sequence (15<sup>th</sup>-13<sup>th</sup> cent. BC).

The deep vessel with vertical upper sides and thickened rim in Pl. 2: 1 belongs to a general morphology common to all the stages of the Hittite ceramic sequence (see Schoop 2006: fig. 4B and fig. 6; Schoop 2011: fig. 1: 5; Mielke 2006: type S11). They have some predecessors recognized in the Assyrian colony period (Mielke 2006: 112-113), but their main frequency is to be located between the 16<sup>th</sup> and the 14<sup>th</sup> century BC. For the wide-mouthed pots with outside thickened rim (Pl. 2: 2), which have the same range of attestation (see, for example, Mielke 2006: type Kt2; Schoop 2003a: 18), the period of major attestation may be slightly later (15<sup>th</sup>-13<sup>th</sup> cent. BC).

The large rim-sherd in Pl. 2: 3 most probably belongs to the group of wide-mouthed, deep vessels (see Mielke 2006: types T1, T8, or T10)<sup>32</sup> whose range of attestation is attributed to the middle and late phase of the Hittite ceramic sequence (15<sup>th</sup>-13<sup>th</sup> cent. BC). To similar general morphologies may be associated the sherd in Pl. 2: 4;<sup>33</sup> this last example, although poorly preserved, might also be related to the funnel shaped neck pots which are usually connected to the Anatolian Bronze Age ritual customs and, in particular, to the drinking of beer through filter-tipped straws.<sup>34</sup>

Among the closed shapes, the fragments of high necked jars (Pl. 2: 5-6) might belong to the family of Hittite medium-sized storage containers that are typical of the Late Bronze Age

<sup>29</sup> Compare Pl. 1: 12 with Mielke 2006: pl. 51: 20, type S2; Müller-Karpe 1988: pl. 32, type S2c, and spec. n. 1. The group of bowl type S2, however, although including different variants, refers more properly to larger and coarser samples than that shown in Pl. 1: 12.

<sup>30</sup> Compare Pl. 1: 12 with Müller-Karpe 1988: pl. 33: type S3, 44, 51.

<sup>31</sup> Compare Pl. 1: 12 with Mielke 2006: pl. 52: 10, type S4a.

<sup>32</sup> See specifically Mielke 2006: type T1g (spec. pl. 21: 7) or T1x (pl. 23: 8); type T8f (and spec. pl. 28: 15), or T8n (pl. 30: 11); or type T10n (see pl. 33: 24). All these types at Kuşaklı/Sarissa are attributed to the intermediate and late phases of the West Slope sequence (15<sup>th</sup>-13<sup>th</sup> cent. BC): the T8 variants are, however, considered particularly typical of the intermediate phase (15<sup>th</sup>-14<sup>th</sup> cent. BC); the variants T10 of the intermediate and late phases (15<sup>th</sup>-13<sup>th</sup>), and the variants T1 of the late phase (13<sup>th</sup> cent. BC) (Mielke 2006: annex 6).

<sup>33</sup> See in particular Mielke 2006: type T1c (pl. 20: 1); Müller-Karpe 1988: type T1m (pl. 15: type T1m: 1); Müller-Karpe 1988: type T8b (pl. 20: type T8b: 10).

<sup>34</sup> See Müller-Karpe 1988: 33; Mielke 2006: 95-96; Müller-Karpe 2005; Schoop 2009: 153.

household ceramic inventories, and especially of 14<sup>th</sup> and 13<sup>th</sup> centuries BC (cf. Schoop 2009: fig. 13: 1). The morphology of the rims seems to be quite common: at Kuşaklı/Sarissa, for example, comparable specimens (see Mielke 2006: types K 2a, pl. 2; K 2m, pl. 6) are attested since the earlier stages of the West Slope sequence (end of 16<sup>th</sup> cent. BC). They do, however, appear to be more common in the following phases.<sup>35</sup>

A single body-sherd with a pre-fired mark incised is also attested (Pl. 2: 7). The significance of these signs in Late Bronze Age Anatolia is still under discussion.<sup>36</sup> The poor state of preservation of the fragment from the test sounding does not allow a sound reading, but it might be related to chevron signs, which have been interpreted as an indication of profession (Glatz 2012: type 2, fig. 2 and tab. 2). An additional suggestion is that it may be part of a triangle sign or, more unlikely, of a dissected triangle, associated with the hieroglyph signs for 'luck'/'health' or to the hieroglyph for 'king', respectively (Glatz 2012: type 10, fig. 2 and tab. 1).

Wheelmade red slip ware sherds are also quite frequent (Pl. 4: 1-5).<sup>37</sup> The use of the red slip constitutes an aspect of marked continuity in the central Anatolian ceramic productions, being attested from the Early Bronze Age, where it is mainly found in association with hand-made pottery, well into the Middle and Late Bronze Ages, and, to some extent, into the Iron Age (Orsi *in press*). The apex of wheelmade red slip ware production in north-central Anatolia, in terms of both quality and quantity, is attributed to the Assyrian colony period (1<sup>st</sup> quarter of the 2<sup>nd</sup> millennium BC) and to the early part of the Hittite sequence (17<sup>th</sup> and beginning 16<sup>th</sup> century BC). In the inventory of the test sounding, the most common shapes are curved or carinated bowls with upper convex sides. They usually bear complete or almost-complete slip on the outer surfaces, while the inner side surfaces, immediately below the rim, are more commonly bare (Pl. 4: 1-2, 5). They find broad comparisons in the Late Bronze Age contexts of central Anatolian sites, but they are considered typical of the early stages of the Hittite ceramic sequences, and mainly belong to morphologies that are attested since the Assyrian colony period (Schoop 2009: 150-151; Schoop 2011: 245)<sup>38</sup>. White slip ware sherds (Pl. 2: 6), instead, which are frequently recorded at Hittite sites (Schoop 2011: 243), seem to be sporadic in this context and, in general, at Uşaklı Höyük.<sup>39</sup>

Handmade sherds dating to the end of the 3<sup>rd</sup>-beginning of the 2<sup>nd</sup> millennium BC constitute an additional component of the inventory of the test sounding (Pl. 4: 6-12),<sup>40</sup> as for most archaeological contexts brought to light so far at Uşaklı Höyük (Orsi *in press*: figs. 72-74,

<sup>35</sup> At Kuşaklı/Sarissa they are especially typical of the intermediate and late phases of the West Slope sequence (Mielke 2006: annex 6, type K2), dating from the 15<sup>th</sup> to the first half of the 13<sup>th</sup> century BC. In the Upper City of Boğazköy (see Müller-Karpe 1988: pl. 51 and pg. 31) the frequency of the type increases from period 3 (15<sup>th</sup>-14<sup>th</sup> centuries BC) to period 2 (13<sup>th</sup> century BC).

<sup>36</sup> For an overview on the state of art see Glatz 2012 and Mielke 2016b with previous bibliographical references.

<sup>37</sup> For a detailed characterization of the ware, see D'Agostino, Orsi 2015: 83-91.

<sup>38</sup> Their older predecessors, in addition, are identified in the handmade red slip ware production of the late Early Bronze Age stages (Schoop 2009: 148-150).

<sup>39</sup> It is not possible to tell at this stage of the analysis if this might be related to some chronological, functional, or local peculiarity. White and yellowish slip potsherds account for *ca.* 6% of the 2<sup>nd</sup> millennium BC ceramic inventory of the test sounding.

<sup>40</sup> They account here for *ca.* 9% of the *corpus* of diagnostic potsherds.

Uşaklı Höyük, Area A; figs. 98-100, Uşaklı Höyük, Area D, Building III foundations; fig. 115, Uşaklı Höyük, Area C). In terms of Uşaklı Höyük recording system, handmade red slip ware (D'Agostino, Orsi 2015: 95-96), handmade painted and geometric-painted ware (D'Agostino, Orsi 2015: 93-94) are all attested. The range of general morphologies is rather limited, being circumscribed to curved and upper convex sides bowls (U13.588, Pl. 4: 6-7; U13.474, Pl. 4: 8, 11), and medium size jars with everted (U13.731, Pl. 4: 10-11) or convex-closed neck (Pl. 4: 9). The fabrics are relatively heterogenous: vegetal tempered fabrics are quite frequent, here including samples with very large size inclusions (see spec. Pl. 4: 10, 12), but gritty and sandy tempered fabrics are also well attested. Given the fact that the raising of the eight cobbled floors brought to light in the sounding is clearly a Late Bronze Age activity, these handmade sherds are evidently to be considered intrusive, and evidence of displacement of soils in antiquity.

#### INTERPRETATION AND TENTATIVE DATING

Although the marked continuity in the ceramic production registered so far at Hittite sites hampers the usefulness of the pottery as a dating tool in the Late Bronze Age central Anatolian sites,<sup>41</sup> the preliminary evaluation of the ceramic inventory from the test sounding may, all the same, give some hints for the dating of the construction of the Area A Building II. The inventory, together with some late Early Bronze and Middle Bronze Age ceramic samples, includes a vast majority of typical Late Bronze Age ceramic types, and it is to that period, which is the latest attested on the basis of retrieved materials, that we must date the raising of the cobbled floors.

Most of the Late Bronze Age types recovered in these fillings has, chronologically, a long range of attestation in north-central Anatolian sites, covering most of the Hittite ceramic sequence and, in some cases, the period of the Assyrian colonies. However, a relatively high number of parallels has been identified with types that do not seem to be attested before the 15<sup>th</sup> century BC.<sup>42</sup> We have to consider that the degree of similarity between the samples from Uşaklı and those from the other sites is not always total, and that the range of attestation given at the sites of comparison for the various ceramic types is usually related to a cluster of morphological variants and not to a single specific variant. However, this evidence would support a dating for the ceramic assemblage of the sounding which is not older than the 15<sup>th</sup> century BC. Taking into consideration the span of time for which the parallels are reported as particularly widespread, most of them result peculiar to the 15<sup>th</sup>-14<sup>th</sup> centuries. A few comparisons have been observed with types that are considered particularly typical of the chronological span between 15<sup>th</sup> and 13<sup>th</sup> century BC,<sup>43</sup> or of the sole 13<sup>th</sup> century BC,<sup>44</sup> but all these variants are attested at least since the 15<sup>th</sup> cent. BC. Considering the absence of types whose distribution is apparently limited to the 13<sup>th</sup> century,<sup>45</sup> as well as of some other types which seem to be more

<sup>41</sup> In this regard, see in particular Schoop 2008: 44-51.

<sup>42</sup> See parallels suggested with Kuşaklı/Sarissa and Boğazköy ceramic types S4; S3; T1; T8 and T10.

<sup>43</sup> See parallels suggested with Kuşaklı/Sarissa and Boğazköy ceramic types K2, Kt2 and T10.

<sup>44</sup> See parallels suggested with Kuşaklı/Sarissa and Boğazköy ceramic types S2, S3, S4 and T1.

<sup>45</sup> See, for example, Kuşaklı/Sarissa and Boğazköy ceramic types S21 and Stk (Mielke 2006; Müller-Karpe 1988).

typical of the very later stages of the Hittite ceramic sequence (for which see Schoop 2003b), the dating of the ceramic assemblage of the sounding would not seem to be later than the 14<sup>th</sup> century BC. Given all of the above, the range of dates for the ceramic assemblage from the sounding would appear most likely to correspond to the 15<sup>th</sup>-14<sup>th</sup> century BC.<sup>46</sup> The construction of Building II, which is to be considered a single activity together with the raising of the eight cobbled floors brought to light in the test sounding, is more likely to be located within the same chronological span or, potentially, after it. Although the raising of the cobbled floors and the construction of Building II are clearly a single activity, which one may hypothesize to have taken place in a relatively short span of time, the fact that the ceramic potsherds recovered on the floors and between the floors below the Building were evidently not located in their context of use, but discarded in a secondary context, it is not possible to tell if they belonged exactly to the same chronological span in which the construction of the Building took place: in fact, the potsherds either may have belonged to a living context at the time of construction, or have derived from a context which was already 'secondary' and, consequently, indefinitely older. The presence of Early Bronze Age and Transitional Period handmade potsherds testifies to disturbing post-depositional events that had already occurred at the time of the construction of the Building II, which may either have taken place during the construction of the large Building II, or relate to earlier activities.

The secondary nature of the context of recovery of the potsherds affects the usefulness in reconstructing a functional interpretation of the setting. Despite some exceptions, the high level of similarity registered so far in the comparisons of ceramic types, instead, seems to be evidence of a marked uniformity of Uşaklı Höyük 2<sup>nd</sup> millennium BC ceramic production within the north-central Anatolian horizon.

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<sup>46</sup> The same span of time would also accord with the attestation, although sporadic, of Red Lustrous Wheelmade Ware, which is thought to appear in the Central Anatolian area toward the beginning of the 15<sup>th</sup> century, and become widespread in the following 14<sup>th</sup> and 13<sup>th</sup> centuries BC.

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## APPENDIX I. CHARTS

Area A Test Sounding – Stratigraphic Units	Diagnostic potsherds (Number)	Generic potsherds (Number)	<i>Potsherds Total (Number)</i>	Diagnostic potsherds (Kg)	Generic potsherds (Kg)	<i>Potsherds Total (Kg)</i>
US 40	2	5	7	0.01	0.08	0.09
US 41	8	41	49	0.11	0.60	0.70
US 44	16	70	86	0.48	1.03	1.50
US 52	2	32	34	0.06	0.64	0.70
US 53	19	77	96	0.91	1.16	2.07
US 54	1	15	16	0.11	0.25	0.36
US 61	11	62	73	0.45	1.02	1.46
US 66	5	13	18	0.31	0.38	0.69
US 69	8	58	66	0.18	1.45	1.62
US 70	1	6	7	0.01	0.23	0.24
US 71	7	27	34	0.10	0.37	0.47
US 73	7	19	26	0.39	0.29	0.68
US 74	3	9	12	0.29	0.08	0.37
US 76	7	19	26	0.32	0.44	0.76
<i>Totals</i>	97	453	550	3.72	7.99	11.71

Chart 1. Overview of the ceramic inventory.

	Common Ware		Storage Ware		Kitchen Ware		Fine Ware		<i>Total</i>
	Diagnostic Potsherds	Generic Potsherds	Diagnostic Potsherds	Generic Potsherds	Diagnostic Potsherds	Generic Potsherds	Diagnostic Potsherds	Generic Potsherds	
Number of Potsherds	72	382	2	3	20	64	3	4	550
Distribution on Potsherds Total Number (550)	13.09%	69.45%	0.36%	0.55%	3.64%	11.64%	0.55%	0.73%	100.00%
Weight (Kg) of Potsherds	2.30	6.25	0.39	0.62	1.00	1.11	0.03	0.02	11.70
Distribution on Potsherds Total Weight (11.70 Kg)	19.62%	53.41%	3.30%	5.28%	8.51%	9.45%	0.28%	0.15%	100.00%

Chart 2. Distribution of general functional categories for the groups of diagnostic and generic potsherds.

State of Preservation Wares	Generic Potsherds		Diagnostic Potsherds		<i>Total</i>	
MBA and LBA potsherds	442	97.57%	88	90.72%	530	96.36%
EBA Handmade potsherds	11	2.43%	9	9.28%	20	3.64%
<i>Total Number of Potsherds</i>	453	100.00%	97	100.00%	550	100.00%

Chart 3a. Chronological distribution of main ceramic types for the group of generic potsherds, diagnostic potsherds and for the total number of potsherds.

State of Preservation Wares	Rims and Rims + wall or neck section		Bases and Bases + wall section		Walls		Handles and Handles + wall section		Spouts		<i>Total</i>	
MBA and LBA potsherds	59	92.19%	8	88.89%	5	83.33%	15	88.24%	1	100.00%	88	90.72%
EBA Handmade potsherds	5	7.81%	1	11.11%	1	16.67%	2	11.76%			9	9.28%
<i>Total Number of Potsherds</i>	64	100.00%	9	100.00%	6	100.00%	17	100.00%	1	100.00%	97	100%

Chart 3b. Chronological distribution of main ceramic types for the group of diagnostic potsherds.

State of Preservation Wares	Generic Potsherds		Diagnostic Potsherds		<i>Total Number of Potsherds</i>	
Plain Ware	299	66.00%	48	49.48%	347	63.09%
Buff Slip Ware	1	0.22%	1	1.03%	2	0.36%
White and Yellowish Slip Ware	22	4.86%	5	5.15%	27	4.91%
Orange Fine Ware	1	0.22%			1	0.18%
Kitchen Ware	63	13.91%	21	21.65%	84	15.27%
Red Slip Ware	53	11.70%	9	9.28%	62	11.27%
Brown Slip Ware	3	0.66%	1	1.03%	4	0.73%
Painted Ware		0.00%	3	3.09%	3	0.55%
Red Slip Ware-Handmade	8	1.77%	6	6.19%	14	2.55%
Geometric Painted Ware – <i>Handmade</i>		0.00%	2	2.06%	2	0.36%
Plain Ware – <i>Handmade</i>	3	0.66%	1	1.03%	4	0.73%
<i>Total</i>	453	100.00%	97	100.00%	550	100.00%

Chart 4a. Distribution of main ceramic wares for the group of generic potsherds, diagnostic potsherds and for the total number of potsherds.

State of Preservation Wares	Rims and Rims + wall or neck section		Bases and Bases + wall section		Walls		Handles and Handles + wall section		Spouts		Total	
Plain Ware	32	50.00%	7	77.78%	2	33.33%	6	35.29%	1	100%	48	49.48%
Buff Slip Ware							1	5.88%			1	1.03%
White and Yellowish Slip Ware	4	6.25%					1	5.88%			5	5.15%
Kitchen Ware	14	21.88%	1	11.11%			6	35.29%			21	21.65%
Red Slip Ware	9	14.06%									9	9.28%
Brown Slip Ware							1	5.88%			1	1.03%
Painted Ware					3	50.00%					3	3.09%
Red Slip Ware – <i>Handmade</i>	4	6.25%					2	11.76%			6	6.19%
Geometric Painted Ware – <i>Handmade</i>			1	11.11%	1	16.67%					2	2.06%
Plain Ware – <i>Handmade</i>	1	1.56%									1	1.03%
<i>Total</i>	64	100%	9	100%	6	100%	17	100%	1	100%	97	100%

Chart 4b. Distribution of main ceramic wares for the group of diagnostic potsherds.

State of Preservation Wares	Generic Potsherds		Diagnostic Potsherds		<i>Total Number of Potsherds</i>	
Plain Ware	299	67.65%	48	54.55%	347	65.47%
Buff Slip Ware	1	0.23%	1	1.14%	2	0.38%
White and Yellowish Slip Ware	22	4.98%	5	5.68%	27	5.09%
Orange Fine Ware	1	0.23%			1	0.19%
Kitchen Ware	63	14.25%	21	23.86%	84	15.85%
Red Slip Ware	53	11.99%	9	10.23%	62	11.70%
Brown Slip Ware	3	0.68%	1	1.14%	4	0.75%
Painted Ware			3	3.41%	3	0.57%
<i>MBA and LBA potsherds</i>	442	100.00%	88	100.00%	530	100.00%

Chart 5a. Distribution of MBA and LBA ceramic wares for the group of generic potsherds, diagnostic potsherds and for the total number of potsherds.



Preservation Wares	Rims and Rims + wall or neck section		Bases and Bases + wall section		Walls		Handles and Handles + wall section		Spouts		<i>Total</i>	
Plain Ware	32	54.24%	7	87.50%	2	40.00%	6	40.00%	1	100.00%	48	54.55%
Buff Slip Ware							1	6.67%			1	1.14%
White and Yellowish Slip Ware	4	6.78%					1	6.67%			5	5.68%
Kitchen Ware	14	23.73%	1	12.50%			6	40.00%			21	23.86%
Red Slip Ware	9	15.25%									9	10.23%
Brown Slip Ware							1	6.67%			1	1.14%
Painted Ware					3	60.00%					3	3.41%
<i>MBA and LBA potsherds</i>	59	100.00%	8	100.00%	5	100.00%	15	100.00%	1	100.00%	88	100.00%

Chart 5b. Distribution of MBA and LBA ceramic wares for the group of diagnostic potsherds.

State of Preservation Wares	Generic Potsherds		Diagnostic Potsherds		<i>Total Number of Potsherds</i>	
Red Slip Ware – <i>Handmade</i>	8	72.73%	6	66.67%	14	70.00%
Geometric Painted Ware – <i>Handmade</i>			2	22.22%	2	10.00%
Plain Ware – <i>Handmade</i>	3	27.27%	1	11.11%	4	20.00%
<i>EBA Handmade potsherds</i>	11	100.00%	9	100.00%	20	100.00%

Chart 6a. Distribution of EBA Handmade ceramic wares for the group of generic potsherds, diagnostic potsherds and for the total number of potsherds.

State of Preservation Wares	Rims and Rims + wall or neck section		Bases and Bases + wall section		Walls		Handles and Handles + wall section		Spouts	<i>Total</i>	
Red Slip Ware – <i>Handmade</i>	4	80.00%					2	100.00%		6	66.67%
Geometric Painted Ware – <i>Handmade</i>			1	100.00%	1	100.00%				2	22.22%
Plain Ware – <i>Handmade</i>	1	20.00%								1	11.11%
<i>EBA Handmade potsherds</i>	5	100%	1	100%	1	100%	2	100%		9	100%

Chart 6b. Distribution of EBA Handmade ceramic wares for the group of diagnostic potsherds.

## APPENDIX 2. DIAGRAMS

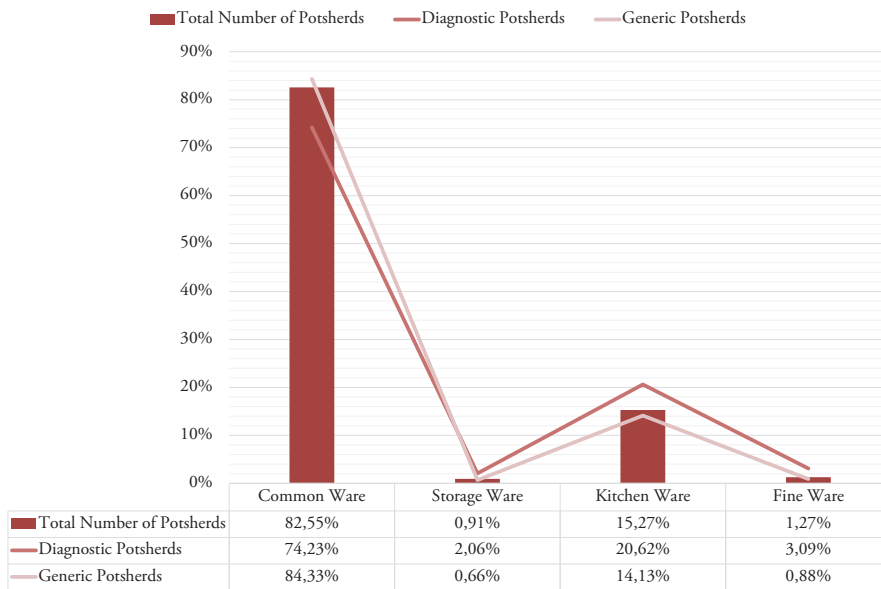


Diagram 1. Distribution of general functional categories (diagnostic potsherds, generic potsherds, and total recovered potsherds). See Chart 2 for the totals of reference.

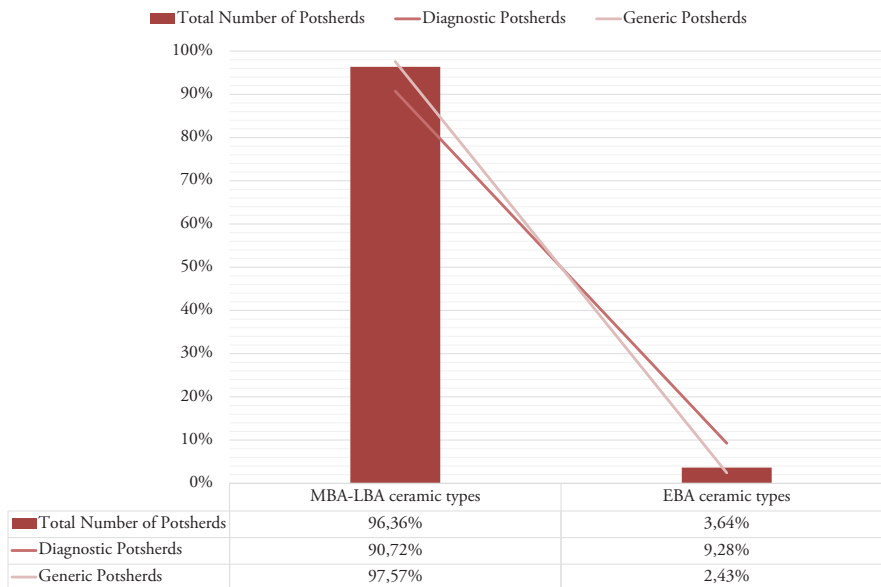


Diagram 2. Chronological distribution of the main ceramic types (diagnostic potsherds, generic potsherds, and total recovered potsherds). See Chart 3a for the totals of reference; see charts 4 and 5 for the details of ceramic wares included in the sets.

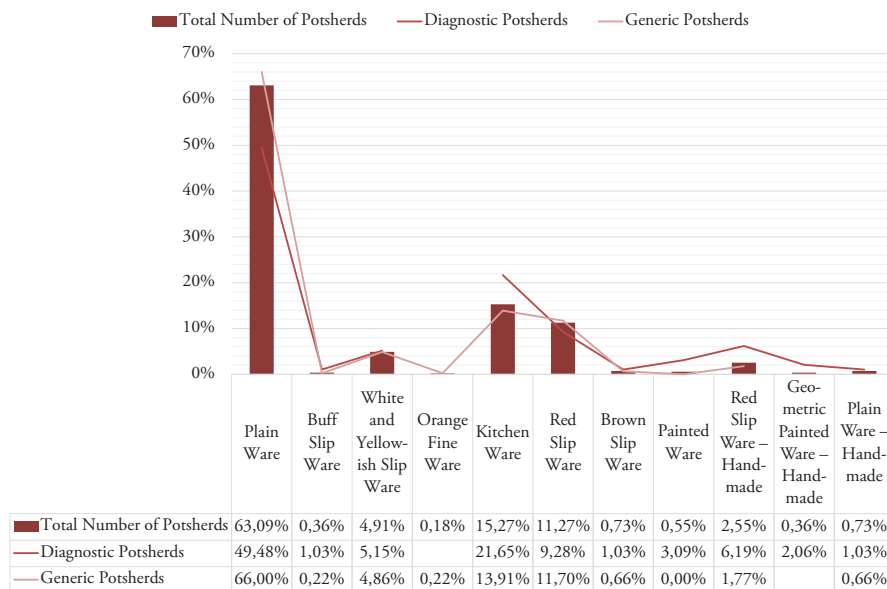


Diagram 3. Distribution of main ceramic wares (diagnostic potsherds, generic potsherds, and total recovered potsherds). See chart 4a for the totals of reference.

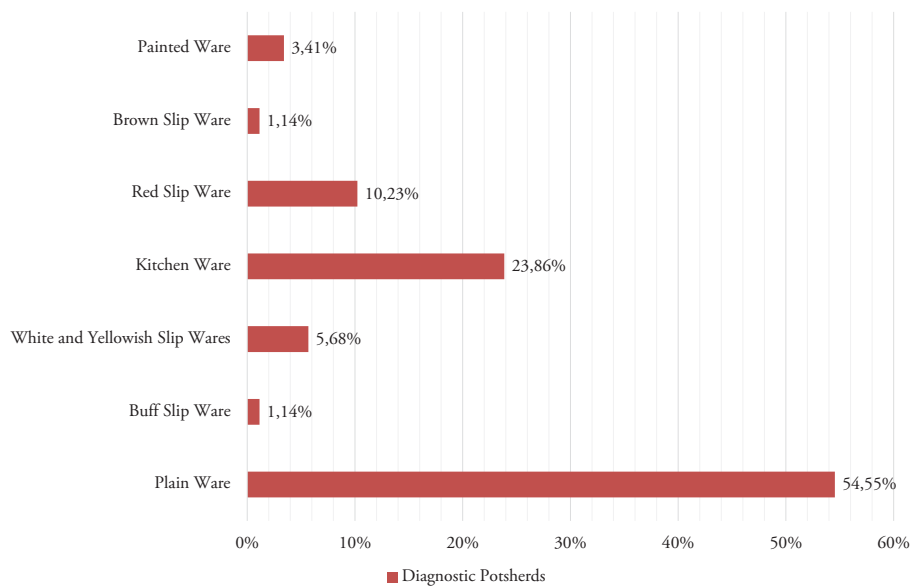


Diagram 4. Detail of distribution of main ceramic wares for the group of 2<sup>nd</sup> millennium BC diagnostic potsherds. See chart 5b for the totals of reference.

## APPENDIX 3. POTTERY CATALOGUE

**Key to the pottery catalogue: abbreviations used in the description of pottery**

U.Inv.: inventory number in Uşaklı Höyük collection

W/Cl: ware (W) and functional class (Cl)

Wares include: Bs: Brown Slip Ware; Bu: Buff Slip; GPt: Geometric Painted Ware [handmade]; K: Kitchen; P: Plain Ware; Rs: Red Slip Ware; Rs-2: Red Slip Ware-handmade; Yg: Yellowish/White Slip Ware

Functional classes include: C: Common and table wares; K: Kitchen/Cooking wares; S: Storage and long-term preservation wares; F: Fine and luxury wares

E: texture evaluation: FF: very fine; F: fine; MF: medium-fine; M: medium; MC: medium-coarse; C: coarse

ST: surface treatment: 1<sup>st</sup> line – Finishing

Technique: 1: Bare; 2: Self-slipped; 3: Slipped; 4: Washed / s: sporadically; p: partially; t: totally. 2<sup>nd</sup> line – Surface Appearance: D: Dull; G: Glossy; L:

Lustrous / s: sporadically; p: partially; t: totally. 3<sup>rd</sup> line – Technological marks: F: Fingering; W:

Throwing marks; T: Trimming (v: vertical; h: horizontal; s: slanting; i: irregular); S: Smoothing (s: sporadic; p: partial; t: total); L: Lustrous; B: Burnishing (v: vertical; h: horizontal; s: slanting; i: irregular); P: Polishing (v: vertical; h: horizontal; s: slanting; i: irregular).

Fa: fabric – main inclusion; V: vegetal; M: mineral; MV: mineral and vegetal

Colours: main colours visible in surfaces (out.: outside surface; in: inner side surface) and freshly broken sections (sect.: section). In case two or more colours are registered in the same field, they are separated by a comma. Abbreviations used are referred to the Munsell Soil Color Chart: w. = white or whitish; b. = black; br. = brown or brownish; y. = yellow or yellowish; g. = gray or grayish; o. = olive; r. = red or reddish; pi. = pink or pinkish; gr. = greenish; bl. = bluish; d. = dark; du. = dusky; l. = light; p. = pale; s. = strong; v. = very; we. = weak

Surface colours may include: s: colour of the Surface; Ss: colour of the Self-Slip; S: colour of the Slip; P: colour of the Painted decoration

Section colours may include: O: fracture colour on the outer margin; C: fracture colour on the core; I: fracture colour on the inner margin.

T: forming technique: H: handmade; W: wheelmade; HW: handmade and finished on the wheel

Fig.: Correspondences with other figures and plates in the text

**Plate 1 – Area A: Selection of plain ware potsherds from the test sounding in room 126**

n.	U.Inv.	US	W/Cl	E	ST	Fa	Color (out)	Color (in)	Color (sect.)	T	Fig.
1	U13.595	53	P/C	MC	1t Dt Wh	MV	s: l.br. - 7.5YR 6/4	s: l.br. - 7.5YR 6/4	s.br. - 7.5YR 4/6	W	
2	U13.721	61	P/C	MC	1t Dt Wh	M	s: l.br. - 7.5YR 6/4	s: l.br. - 7.5YR 6/4	s.br - 7.5YR 4/6	W	
3	U13.736	70	P/C	MF	1t Dt Wh	M	s: y.r. - 5YR 5/6	s: y.r. - 5YR 5/6	y.r. - 5YR 5/6	W	
4	U13.476	41	P/C	M	1t Gs Bh	M	s: l.br. - 7.5YR 6/4	s: l.br. - 7.5YR 6/4	br. - 7.5YR 5/4	W	
5	U13.737	71	P/C	M	1t Gs Bh	M	s: br. - 7.5YR 5/4	s: br. - 7.5YR 5/4	O: br. - 10YR 5/3 I: y.r. - 5YR 5/6	W	

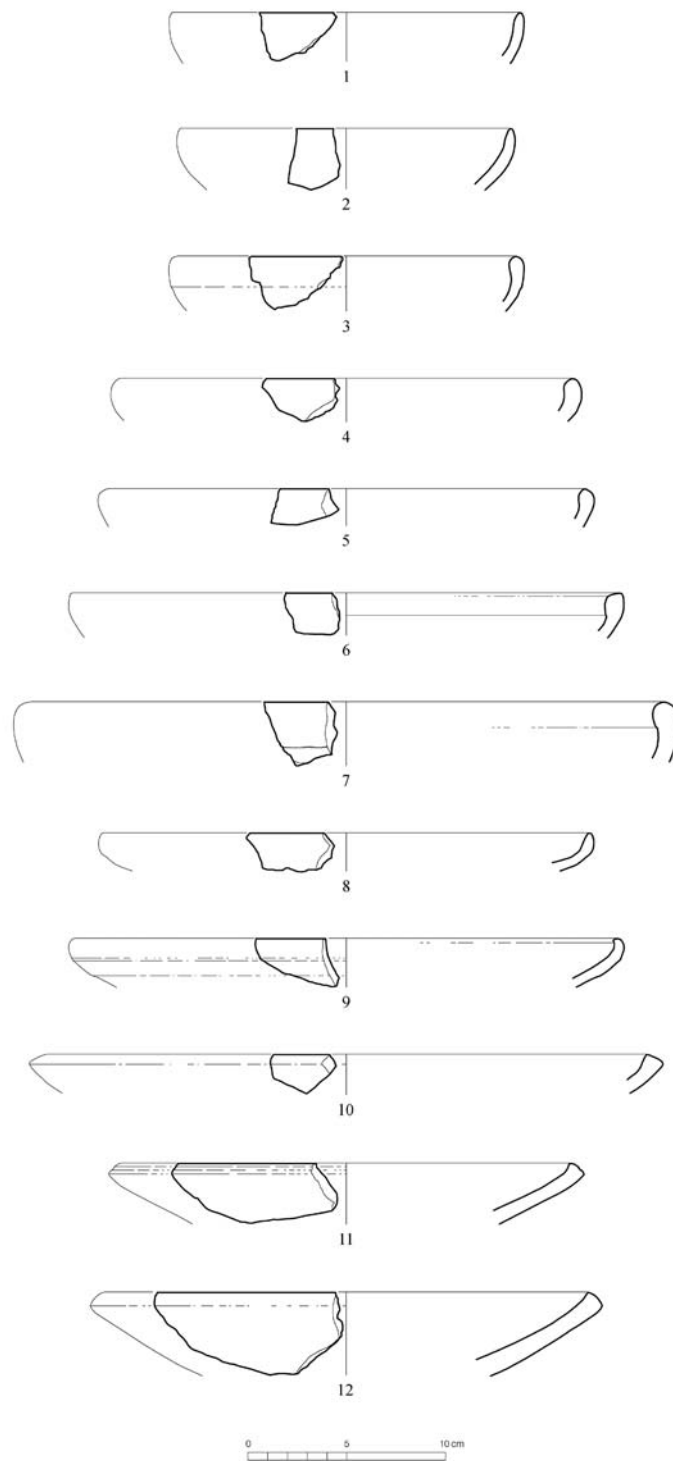


Plate 1. Area A: Selection of plain ware potsherds from the test sounding in room 126.



**Plate 1 – Area A: Selection of plain ware potsherds from the test sounding in room 126**

n.	U.Inv.	US	W/Cl	E	ST	Fa	Color (out)	Color (in)	Color (sect.)	T	Fig.
6	U13.574	44	Rs/C	M	3p Dt Wh	M	S: r.br. - 2.5YR 5/4 s: r.y. - 7.5YR 6/6	S: r.br. - 2.5YR 5/4 s: r.y. - 7.5YR 6/6	O: y.r. - 5YR 6/6 C: g.br. - 2.5Y 5/2 I: r.y. - 5YR 6/6	W	
7	U13.578	44	P/C	MC	1t Dt Wh	M	s: l.y.br. - 10YR 6/4	s: l.y.br. - 10YR 6/4	y.r. - 5YR 5/6	W	
8	U13.751	73	P/F	F	1t Gs Bh	M	s: l.br. - 7.5YR 6/4	s: l.br. - 7.5YR 6/4	O: y.r. - 5YR 5/8 C: br. - 10YR 5/3 I: y.r. - 5YR 5/8	W	
9	U13.744	76	P/C	M	1t Gs Bh	M	s: l.br. - 7.5YR 6/4	s: l.br. - 7.5YR 6/4	y.r. - 5YR 5/6	W	
10	U13.743	76	Yg/C	M	3t Gt Bh	M	S: l.g. - 2.5Y 7/2	S: l.g. - 2.5Y 7/2	v.p.br. - 10YR 7/3	W	
11	U13.745	76	P/C	M	1t Dt Wh	M	s: s.br. - 7.5YR 5/6	s: s.br. - 7.5YR 5/6	s.br. - 7.5YR 5/6	W	
12	U13.592	53	P/C	M	1t Dt Wh	M	s: l.br. - 7.5YR 6/4	s: l.br. - 7.5YR 6/4	y.r. - 5YR 5/6	W	

**Plate 2 – Area A: Selection of plain and kitchen ware potsherds from the test sounding in room 126**

n.	U.Inv.	US	W/Cl	E	ST	Fa	Color (out)	Color (in)	Color (sect.)	T	Fig.
1	U13.723	61	P/C	MC	1t Dt Wh	M	s: r.y. - 5YR 6/6	s: r.y. - 5YR 6/6	r.y. - 5YR 6/6	W	
2	U13.738	71	K/K	MC	1t Dt Wh	M	s: l.br. - 7.5YR 6/4	s: l.br. - 7.5YR 6/4	O: s.br. - 7.5YR 5/6 C: l.o.br. - 2.5Y 5/3 I: s.br. - 7.5YR 5/6	W	
3	U13.746	76	P/C	MC	1t Dt Wh	M	s: l.br. - 7.5YR 6/4	s: l.br. - 7.5YR 6/4	y.r. - 5YR 5/6	W	
4	U13.579	44	P/C	MC	1t Dt Wh	M	s: l.br. - 7.5YR 6/4	s: l.br. - 7.5YR 6/4	O: r.y. - 5YR 6/6 C: y.br. - 10YR 5/4 I: r.y. - 5YR 6/6	W	
5	U13.724	61	P/C	M	1t Dt Wh	M	s: pi. - 7.5YR 7/4	s: pi. - 7.5YR 7/4	O: br. - 7.5YR 5/4 C: l.y.br. - 2.5Y 6/3 I: br. - 7.5YR 5/4	W	
6	U13.753	73	Yg/C	M	3t Gs Bi	M	S: p.y. - 2.5Y 8/3	S: p.y. - 2.5Y 8/3	r. - 2.5YR 5/8	W	
7	U13.732	69	P/C	MF	1t Dt Wh?	M	S: v.p.br. - 10YR 8/3	S: v.p.br. - 10YR 8/3	pi. - 7.5YR 8/3	?	
8	U13.582	44	P/C	M	1t Dt Fi	M	s: l.br. - 7.5YR 6/4	s: l.br. - 7.5YR 6/4	O: l.br. - 7.5YR 6/4 C: y.br. - 10YR 5/4 I: l.br. - 7.5YR 6/4	H	

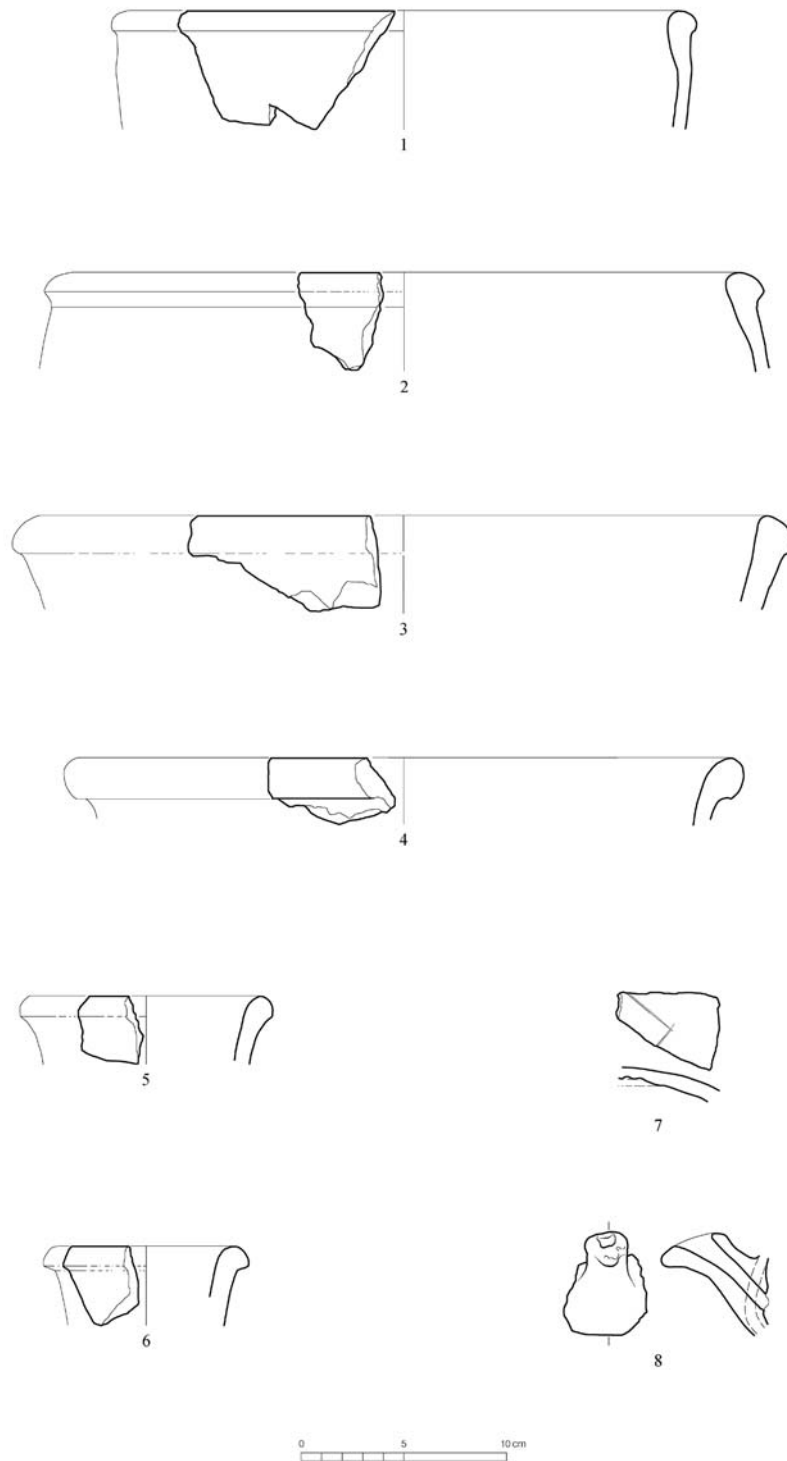


Plate 2. Area A: Selection of plain and kitchen ware potsherds from the test sounding in room 126.

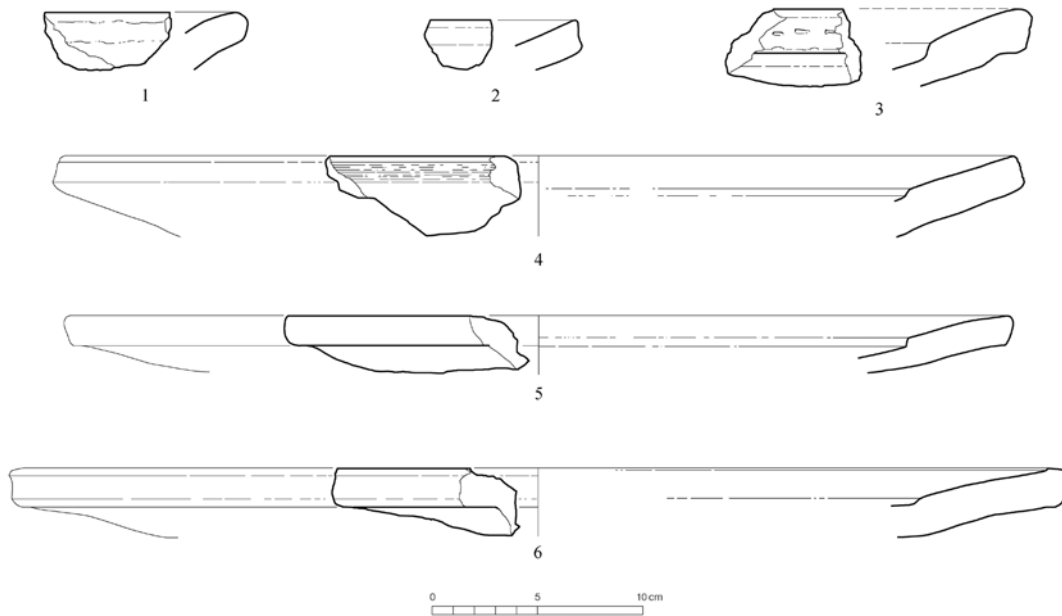


Plate 3. Area A: Selection of coarse plates from the test sounding in room 126.

**Plate 3 – Area A: Selection of coarse plates from the test sounding in room 126**

n.	U.Inv.	US	W/Cl	E	ST	Fa	Color (out)	Color (in)	Color (sect.)	T	Fig.
1	U13.741	71	K/K	C	1t Gs Bh	M	s: r.br. - 5YR 5/3	s: y.r. - 5YR 5/6	O: s.br. - 7.5YR 5/6 C: d.g.br. - 2.5Y 4/2 I: s.br. - 7.5YR 5/6	W	
2	U13.733	69	K/K	C	1t Dt Wh?	M	s: r.br. - 5YR 5/4	s: r.br. - 5YR 5/4	y.r. - 5YR 5/8	?	
3	U13.727	61	K/K	C	1t Dt Bh	M	s: br. - 7.5YR 5/4	s: l.r.br. - 5YR 6/4	s.br. - 7.5YR 5/6	W	
4	U13.701	66	K/K	C	1t Dt Wh	M	s: br. - 7.5YR 4/2	s: br. - 7.5YR 4/2	y.r. - 5YR 4/6	W	Fig. 7
5	U13.756	73	K/K	C	1t Dt Wh	M	s: br. - 7.5YR 5/3	s: br. - 7.5YR 5/4	O: s.br. - 7.5YR 5/6 C: o.br. - 2.5Y 4/3 I: s.br. - 7.5YR 5/6	W	Fig. 6
6	U13.604	53	K/K	C	1t Dt Wh	MV	s: r.y. - 5YR 6/6	s: r.y. - 5YR 6/6	O: y.br. - 10YR 5/4 C: d.g. - 2.5Y 4/1 I: y.br. - 10YR 5/4	W	



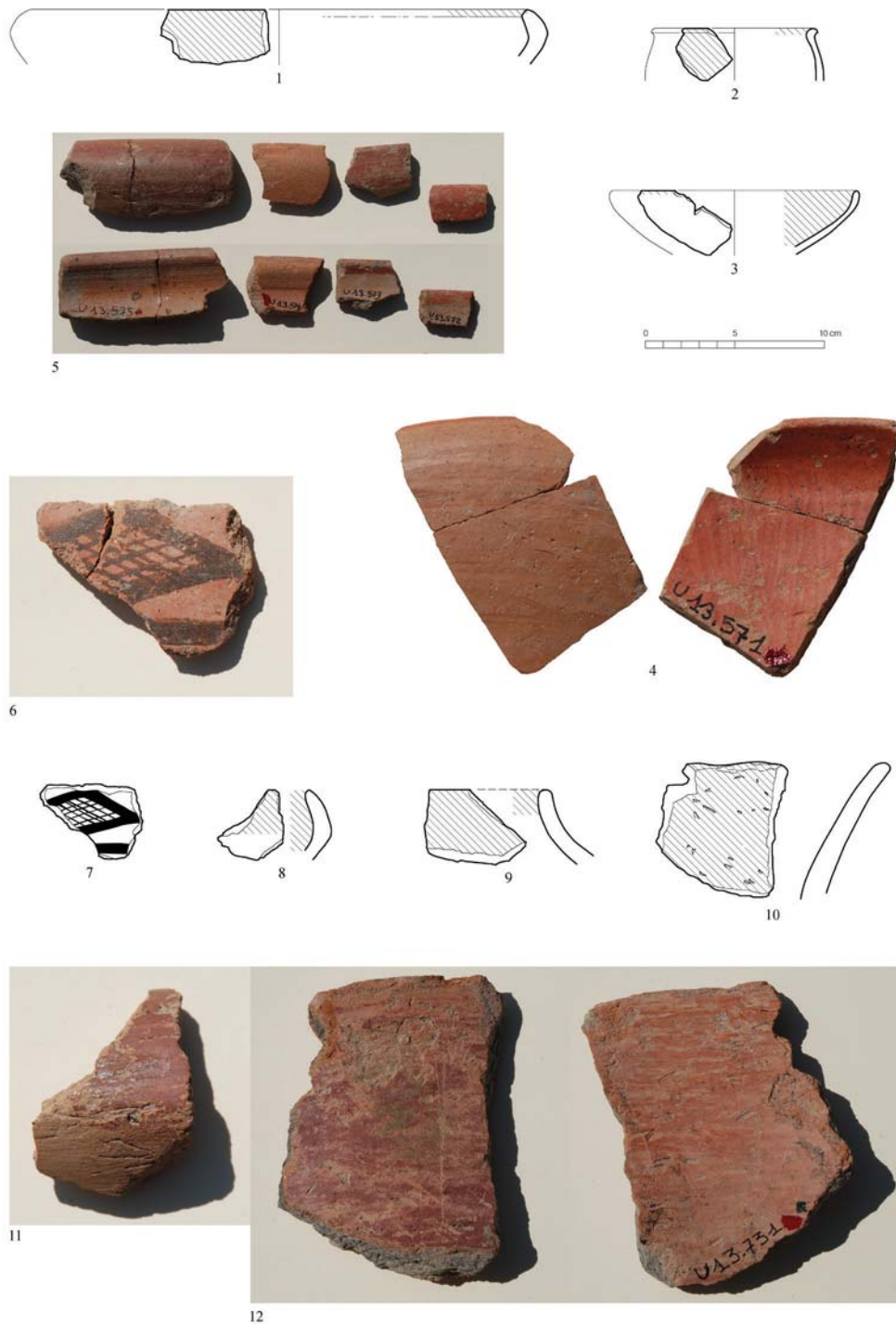


Plate 4. Area A: Selection of red slip ware potsherds and handmade potsherds from the test sounding in room 126.



## THE CONTEXT AND CHRONOLOGICAL RELATIONSHIP OF MIDDLE BRONZE AGE FIGURINES AT ALIŞAR HÖYÜK

Shannon Martino

### *Abstract*

*The cult practices of the Hittites have long been of interest, particularly in terms of the bronze statues, stone reliefs, and iconic representation and discussion of the ritual feeding of the wooden, stone, or metal statue of a Hittite deity. Too often, scholarship overlooks religious and magical practices that involve the use of figurines in less precious materials, and therefore could have been practiced by more members of society than just the elite. Such practices are visible in the production of clay anthropomorphic figurines from Seyitömer in western Turkey to Alişar Höyük in central Turkey to Tell Mardikh in Syria; yet until now, these figurines have received little attention due to their crude and unstandardized manufacture and the lack of contextual information that often accompanies their publication. This paper begins to address this inconsistency by contextualizing the Middle Bronze Age figurines from the site of Alişar Höyük using a synthesis of findings from archival research and past publications, highlighting the value of examining the primary source materials of archaeology.*

### THE LOCATION AND CHRONOLOGICAL RELATIONSHIP OF MIDDLE BRONZE AGE FIGURINE FINDS AT ALIŞAR HÖYÜK

Though many have spoken about the role of statues in Hittite cult practices and as well as the magic rituals that use figurines, rarely do these analyses intersect with archaeological evidence. This is not to say that such evidence does not exist, but such analyses have mostly focused on the textual evidence for these activities, usually involving figures made of costly materials. When it comes to the use of clay figurines, one has the opportunity to not only examine the practice of magic ritual, but also the role of these rituals in the everyday lives of the general population. More than 70 such Middle Bronze Age clay anthropomorphic figurines have been found at the site of Alişar Höyük, making it a good case study for an analysis of practice, with the largest number of Middle Bronze Age clay figurines ever recorded. In order to do that, one must first spatially and chronologically contextualize the findings from a site excavated almost 100 years ago. Through a combination of archival research, ArcGIS, and source compilation this paper aims to do just that.

All the figurines were excavated in the late 1920s and 1930s by the Oriental Institute under the direction of Hans Henning von der Osten and Erich Schmidt. Despite the many years since their excavation, however, they remain incompletely published. First and foremost of the reasons that little work has been done on the figurines from Alişar is the complicated stratigraphy of the site. Next is the difficulty of parsing object find spots from the publications. In fact, contexts of many objects from Alişar can only be found in the excavation object records, cards, and early catalogues which are held in the Oriental Institute Archives, if at all. Of-

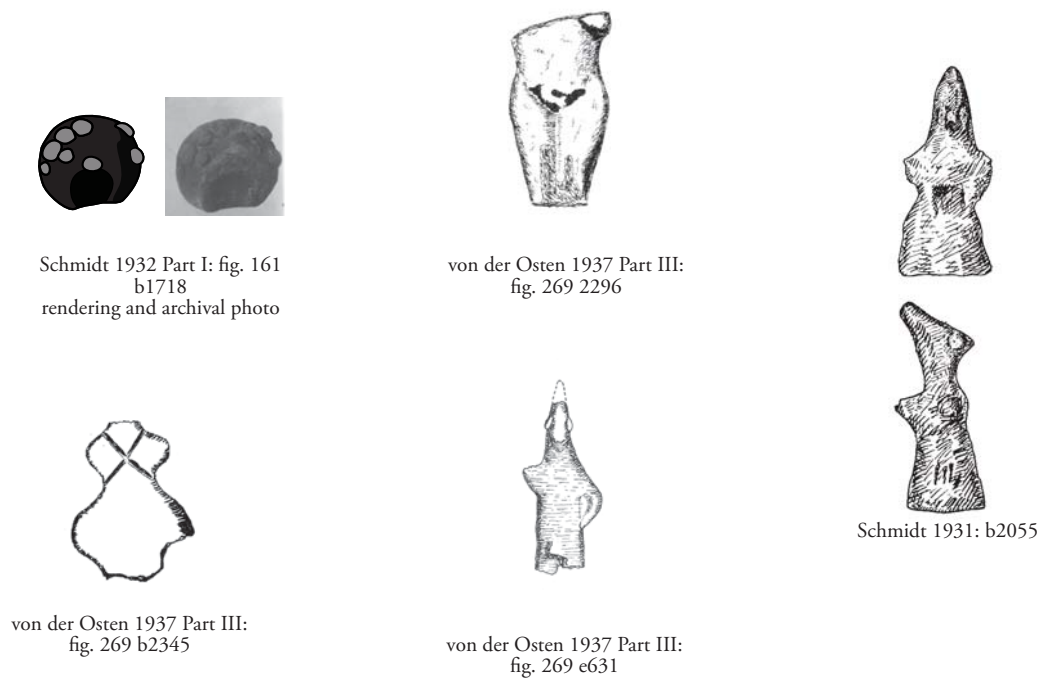


Fig. 1. Unique figurine types at Alişar Höyük.

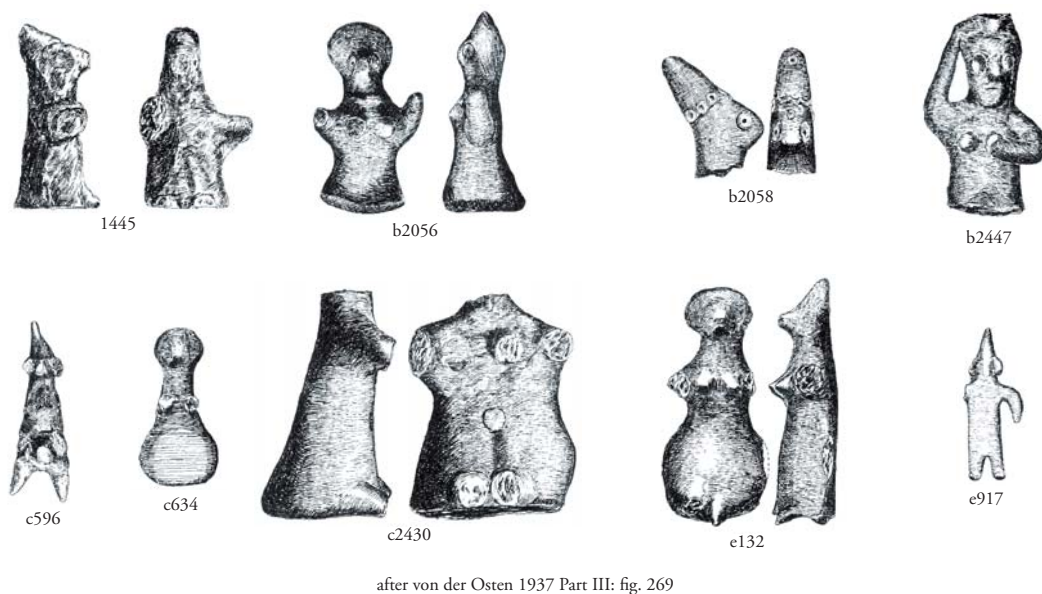


Fig. 2. Typical figurine types at Alişar Höyük.

ten, an object is simply assigned to the stratum of the site in which it was found, e.g. Stratum I, II, or III. For the Alişar excavations of 1932 in particular, one is rarely able to determine a find spot more exact than a grid square of the excavation which measures 10 × 10m and whose total depth could reach from 1 to 4 meters for the 2<sup>nd</sup> millennium, depending upon the extent of pitting in the area. Furthermore, many of the objects are dated to MBII-III, periodizations which have undergone many changes since the 1920s and 1930s. Therefore, in order to truly understand the site and the context of objects there, it is essential to examine not only the publications, but all the archival material held at the Oriental Institute: the field notebooks, the archival photographs, the object logs, and the museum registration and object cards. One must essentially excavate the remains of the excavation.

#### FIGURINE TYPES

A simplified typology of the more common M(iddle) B(ronze Age) figurines from the site illustrates that morphologically, their basic shapes do not vary greatly (Fig. 2). Variability appears in the pairing of the heads and bases. There are three types of figurine bases: a cylindrical base, a circular base on which the feet are indicated, and one that indicates the legs of the figure. Those with legs are shown either seated or standing. When the arms are articulated, they have two main gestures, one with both arms pointing forward and the other with one arm touching the head and the other reaching forward. Schmidt suggested that these gestures, which seem to be typical for the figurines from the site, have a purpose.<sup>1</sup> In addition, it has been stated elsewhere that the gesture of arms reaching forward is a trait of the Middle Bronze Age.<sup>2</sup> An analysis of these gestures paired with an understanding of Hittite practices would be invaluable, though such an analysis is beyond this work's scope.

The heads on the figures come in two types, which have been attributed to a difference in gender; a pointy head or hat for “males” and a rounded head for “females”. The two head shapes and little else has led many to consider them representations of Hittite or Assyrian gods and goddess as is eminently clear from the excavation object records and notebooks that describe particularly well made or curious clay figurines as representations of Ishtar, or, more generally, a goddess. The head shapes are likened to those found on lead and bronze figurines, which are themselves considered representations of gods and goddesses (Fig. 3a). Few would dispute that these metal figures are representations of deities or at least a king or queen. The lead figurines have been dated principally to the early Middle Bronze Age and thus likely pre-date the Hittite Empire, but the one bronze figure from Alişar, e1612 (Fig. 3b), is strikingly similar to an example from Taşlı Geçit Höyük dated to the Late Bronze I period, and a figure from Oylum Höyük, both of which were paired with a female figurine.<sup>3</sup>

Unsurprisingly, metal figurines have received much more attention from scholars. This is likely due in part to the general biases of archaeology toward the role of elites and their goods rather than other classes of society. Furthermore, the objects of elites tend to be made of more

<sup>1</sup> Schmidt 1930 Part I: 130-32.

<sup>2</sup> Makowski 2005: 20.

<sup>3</sup> Marchetti 2010: 298-9; 2008: Fig. 15; Özgen et al. 2008: 145 fig. 15.

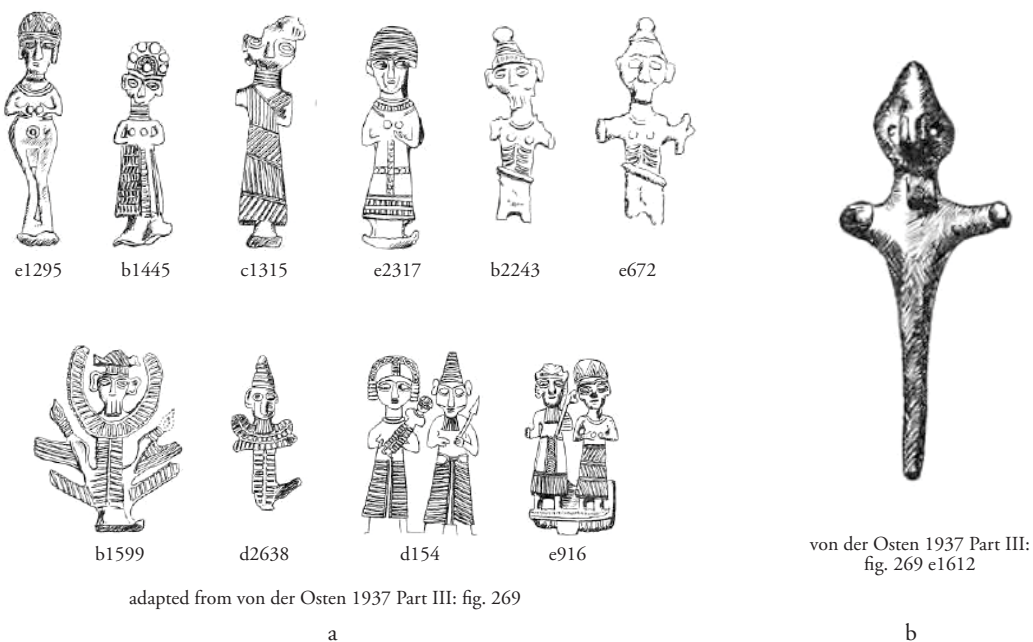


Fig. 3. Metal figurines at Alişar Höyük.

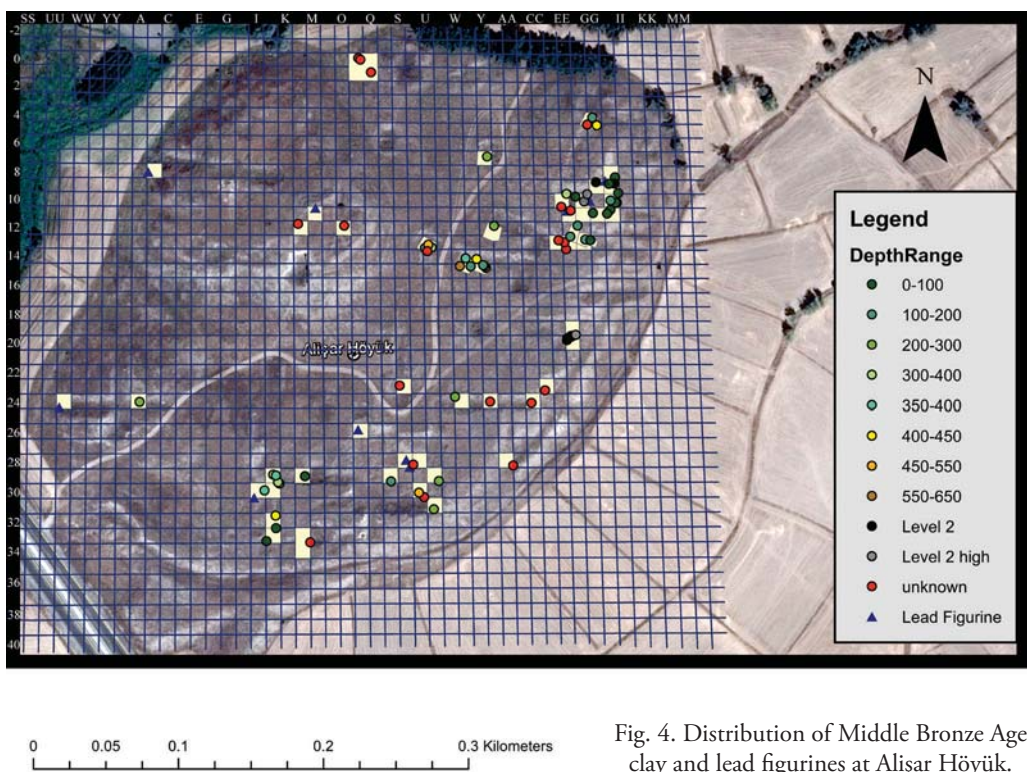


Fig. 4. Distribution of Middle Bronze Age clay and lead figurines at Alişar Höyük.

durable materials and found in elite-controlled areas of sites, which, whether or not they are prioritized in excavations, often make more of an impression on the landscape.

The clay figures are cruder than the metal ones in many ways. Their firing quality is completely unstandardized, from unfired to hard fired, from reduction fired to oxidized. This lack of standardization continues in their form as well, speaking to the haphazard nature of their production and a lack of centralized control. Their simplicity and unstandardized production could well be proof of the magical practices primarily of the lower strata of society; many recognized rituals of purification and acts of magic meant to thwart the ways of sorcerers involve the use of clay figurines.<sup>4</sup>

To determine the role that any particular figurine might have played, there would ideally be some idea of the context in which figurines were found, but instances of *in situ* finds have rarely been available or recorded at Alişar Höyük or any sites. Much can be gained, however, by examining the records from last past excavations and trying to understand the bits of contextual information left in them in order to fill this lacuna in our knowledge.

#### PLOTTING THE FIGURINES

Information regarding the excavations of Alişar Höyük comes from a variety of sources. One source is, of course, the multivolume Oriental Institute publication that came out in three separate years: 1930, 1932 and 1937. These publications were organized by the co-directors of the excavations: Hans Henning von der Osten and Ehrich Schmidt. Despite the consistency of field directors, there is a lack of consistency when it comes to the information contained in the publications and in the documentation. Though every find is scrupulously noted in the excavations logs, from year to year, the detail contained in those logs varies. In particular, as noted above for the 1932 excavations, one is lucky to have a grid square noted for the figurines. The complexes and levels so meticulously documented for the architecture of the site are, for the most part, not associated with the figurines. That being said, of the 76 figurines that can be identified, 75 have grid location information if not depth and/or level (Table 1).

Using ArcGIS I plotted the locations of all the Alişar MBA/Stratum II figurines using a random point generator within each square that was known to have a figurine (Fig. 4). Since each figurine's exact find spot cannot be pinpointed, random point generation seemed the most honest method to populate each square; where it is possible to note a more exact location, this is noted below. The points on the map are color coded based on the known range of depth. Some figurines had exact depth noted (Table 1), but these were occasionally dubious due to the handwriting of the date in the record books. So, of the excavated figurines, 54% had an indicated depth, which I interpreted as a range rather than an exact measurement for the purposes of the map creation. Figurines found in Stratum II, but without a given depth are marked as unknown. The squares were defined before the points, by overlaying the grid squares and plots from the Alişar Höyük monograph onto the modern satellite imagery, geo-rectifying the images using points that could clearly be identified, and creating an associated grid and squares. The resulting grid is, unsurprisingly, slightly off from square, but by no more than 1 m.

<sup>4</sup> Güçerdem 2007; Mouton 2010; Martino forthcoming.



Figurine #	Square/Plot	Depth	Level (as stated in records)
1445	Plot III	90	
1452	Plot XIV	450	
1528	Plot IV	180	
1576	Plot V	190	
2296	Plot XIII	270	
2335	Plot XIV	200	
2337	Plot XIV	190	
2383	Plot XIV	450	
2488	Plot XV	620	
2894	Plot XXV	100-200	
2941/ b2941	Plot XXV	420	
3004	Plot XXIX	180	
3046	Plot XXIX	520	
3137	Plot XV	200	
3143/ b1528	Plot XV	350	
3183	Plot XXIX	300	
3361/ b3006	Plot XXIX?		
b1202	HH10	140-160	
b1237/ 1577	HH10	20-100	
b1297	Plot VIII?	10?	P II VIII.10
b1401	HH11	0-40	
b1406	HH11	0-40	
b1408	FF10		Layer 1 P II high H55?
b1436	GG11	0-60	
b1577/ 1577	Plot V	190	
b1696	HH8	0-100	L1
b1718	EE19		L2 high
b1891	HH10		L2
b1930	FF10		L2 high
b1931	FF10		L2 high
b2055	EE20		L2
b2056	EE20		L2
b2057	EE20		L2
b2058	EE20		L2
b2189/ b2182	FF11		L1-2
b2242	HH9	0-100	L1, 10cT
b2245	HH9	0-100	L1, 10cT

Figurine #	Square/Plot	Depth	Level (as stated in records)
b2345	DDEE10		P II
b2367	HH9		L2
b2438	GG9		L2
b2447	DDEE10	300 below sf 130	P II
b2474	J33	40-100	SII topmost layer
b2475	J33	40-100	SII topmost layer
b672	Y7	210	
c1061	A24	240-300	
c1297	J30	400	
c1314	I30	350-400	
c1806	Plot XXV		
c1917	Y24		
c2052	R29	120-180	4b M
c2430	U29	240	
c2435	BB24	Below 370	
c409/ c408	L29	80	L1
c596	J32	400	
c634	J29	285-370	
c635	J29	285-370	
c677	J29	370-410	
d110	W24	290	
d1699	T30	460-480	
d2345	L33-34		A II
d2474	T28		A II
d2696	T30		
d919	U31	235-310	
e100	Z28		
e132	S23		
e1398	P0-1		
e1442	P-Q0-1		
e1443	P-Q0-1		
e1667	CC23		
e1793	L12		4c M
e1934	O12		4c M
e454	DDEEFF13		
e583	DD13		
e631	EE13		
e898	Along east side of city wall		
e917	EE11		

Table 1. List of figurines with some known context.

This visualization firstly illustrates that there is a wide disparity in depth for very similar figurines. Much of this can be attributed to the multiple pits from different periods often found in each square, but it can also be attributed to late fills, refuse, and the topography of the mound itself. The chronological correlations discussed below indicate that this is not due to a long period of use for such figurines.

Secondly, while the figurines are concentrated outside of the northwestern portion of the mound, this is due to greater and deeper excavation as well as the presence of later substantial constructions in that area. In addition, the clay figurines found in that area: c409, e1934, e1398, e1443, e1442, and c1061 are, in general, similar to the other figurines at the site; their form ranges from the most crude to delicate features, from male to female, and is completely unstandardized (Fig. 5a-f). This suggests that such figurines were the purview of all inhabitants on the mound.

Lastly, the production of the map would allow one to continuing inputting all the data from the excavation, quickly plot all finds from the site, and perceive how all objects with a known context are related, something which has never been done for a site this old.

### The Figurines Contextualized

In the publications from the site, only one contextualized example of figurines from the MBA is offered. Two female figurines, b2056 and b2057, were found together in an area identified as an emptied storehouse, at the base of a wall, and seem to be the same figure, though b2057 (not depicted) is missing its head (Fig. 5g).<sup>5</sup> The area is identified as Level 2 of Complex II in Room 2 in square EE20. Two other figurines were discovered in the same space: male figurines b2055 and b2058 (Fig. 5h and i). Though it is unknown whether these were found in the immediate vicinity as the female figurines (other than the room), the male figurines illustrate a tendency to place male and female figurines in proximity to each other, which has already been noted above for the bronze figurines.

Most anthropomorphic figurines are not specifically associated with another figurine in the records, but there are a few instances in which such an association can be made. For instance, b2242 was found in square HH9 Level 1 Room 2s4, just as b2245 was (Fig. 6a). b2242 is described as the typical pointy hat figurine, while b2245 (no image available) is of the pointy ear type. Both of these male figurines were in the first meter of deposits and found within the same complex, Level 1 of Complex I, level 10cT. At the same level, a cuneiform tablet, b1600, had ultimately been deposited refuse, perhaps indicating that the tablet may have actually belonged to an earlier level and therefore predated the figurines.<sup>6</sup> The text of the tablet itself was identified as dating no earlier than 1800 BC.<sup>7</sup> There was also a lead figurine (b2243) in the same area which could have been contemporary with the tablet (3a).

<sup>5</sup> Schmidt 1930 Part I: 130-1, fig. 160.

<sup>6</sup> Schmidt 1930 Part I: 82.

<sup>7</sup> Schmidt 1930 Part I: 142.

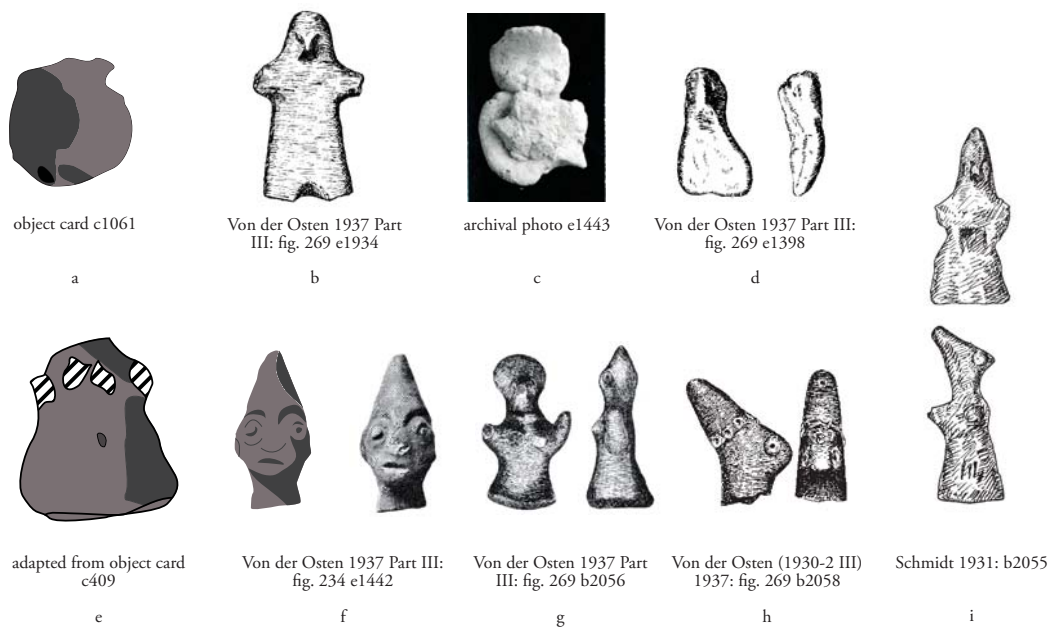


Fig. 5. Figurines in Northwest corner of site (a-f); contextualized examples from original publication (g-i).

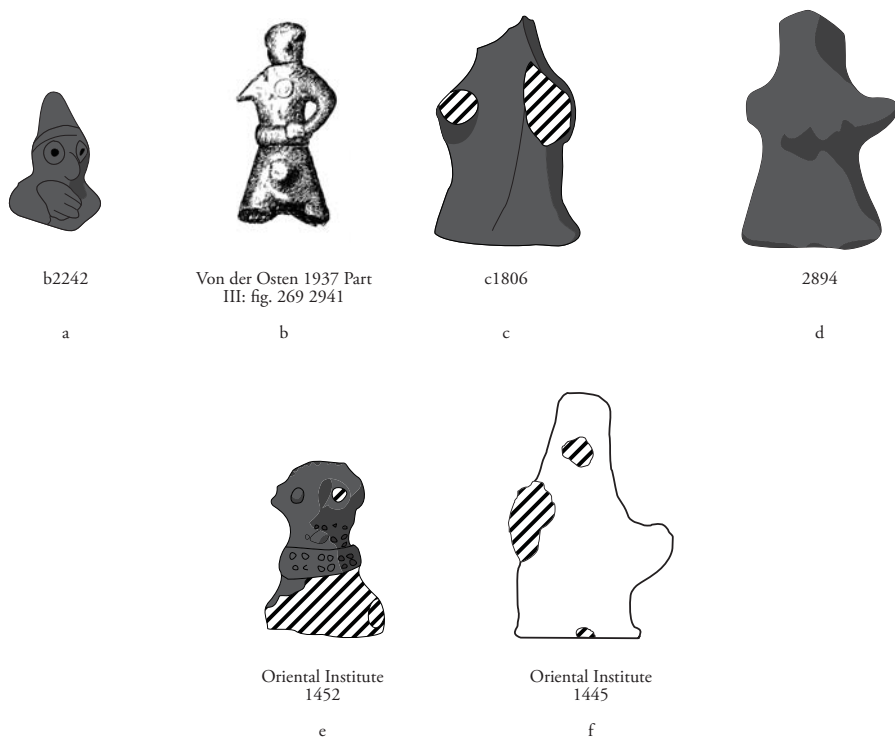


Fig. 6. Contextualized examples from synthesis of publication records and archival research.

In squares P/Q-0/1, an admittedly large area, excavators uncovered e1442, a typical pointy hat figure with slightly more articulated facial features than usual, given the relief treatment of the eyebrow ridge (Fig. 5f). e1433, on the other hand, is a crudely made female figure described as a representation of Ishtar, seemingly carrying a smaller figure, perhaps a child. Both were found along with ceramic stars and spindle whorls (Fig. 5c).

Three figurines were found associated with the postern, c1806, 2941, and 2894, one presumably male and the other two presumably female (Fig. 6b, c, and d). This is more contextual information than we have for many given that the postern is itself not as large as a square.

In other cases, cruder methods of association have to be made. Often, the archival records indicate depth in addition to square information. While depth is by no means an ideal measure in and of itself, unfortunately, in most cases, it is all we have for the Alişar excavations. The problem with depth, including the obvious differences in topography across the site, can be somewhat alleviated by only discussing the relationship between objects found in the same squares, levels, and complexes. Only a few of these instances will be discussed below.

1452 was found with 1445 in Plot XIV at a depth of 4.5m (Fig. 6e and f). These two are a strange juxtaposition as 1452 is a delicately made version of the round headed figurine type thought to be female, with a pinched nose, circular impressions and an appliqué eye and band around the neck, while 1445 is one of the cruder examples of the pointy head figurines. 1445 also seems to have had arms that reach forward, though only one remains. b1401 and b1406 were both found in square HH11 at a depth of between 0 and 40 cm. While b1401 is too fragmentary to describe beyond having an arm, b1406 is very much like figurines from Salat Tepe and discussed below.<sup>8</sup> c634 and c635 were found together in square J29 at a depth of 285-370 cm. c635 was not described in the records other than as a human figurine, but c634 was of the female variety based on the head shape, and the base was circular. b2474 and b2475 were both found in square J33 between 40 and 100 cm below the surface. While b2475 was described as male, b2474 was left undescribed. In Plot V, 1576 and 1577/b1237 were located 190 cm below the surface. 1576 was male and 1577 was a female figurine with a cylindrical body. At a depth of 190 cm and 200 cm respectively, in Plot XIV, 2337 and 2335 were found, though neither is described.

The clay figurines found all over the mound and terrace at Alişar were associated with some buildings that had clear evidence of elite activity with several lead and bronze objects, including lead figurines and molds, and some rooms and buildings that had no such objects and have been identified as storehouses. Some buildings had stone foundations, while others did not.<sup>9</sup> Almost no figurines are known from the area of the citadel, though the ones found there are not dissimilar from those found elsewhere on the mound. Given this and the less than monumental appearance of the spaces in which the figurines were discovered, they were judged to be much earlier than the fortifications on the NW portion of the mound. Furthermore, the places with which these objects are associated have not been identified as temples, but they are in areas filled with contemporary pits, under foundations, and near fireplaces.

<sup>8</sup> Ökse 2015: 126 fig. 11.

<sup>9</sup> Schmidt 1930 Part I: 78-9.





find spots are all from mixed contexts, or contexts slightly below the figurines found in the same area.<sup>11</sup> Since Nicoló Marchetti's has established that the lead figurines belong to late Middle Bronze I, potentially all the finds above the lead figurines would date to the 18<sup>th</sup> century if not later,<sup>12</sup> dating all of them to the very beginning of the Hittite period, or slightly before.<sup>13</sup>

Two clay figurines from Alişar, b2345 and b2447, were found in DDEE10 along with several stamp seals: b1699, b2240, b2225, and b1651, as well as a lead figurine b2243, both in and between levels 9 and 10T (Fig. 1, 3a, and 7a). In addition, two lead figurines were excavated in an adjacent square, FF10: b1599 and b1445, though higher up, b1445 being located within the top refuse above the floor in that square (Fig. 3a). Three clay figurines and b1408, b1930, and b1931 were discovered in the neighboring square FF10 and are all the same type. b1408 comes from the same level as the lead figurines, level 1, while the other two, b1930 and b1931(not depicted), belong to the upper part of Level 2 (Fig. 7b).

Clay figurine c1314 was found in the same square and at the same depth as lead figurine c1315 – I30, at 350-400 cm. Lastly, clay figurine e917 was found in the same square and likely, given the numbering system used at the site, at the same time as lead figurine e916, which was located at a depth of 161 cm. Objects excavated at the site were numbered sequentially and so objects with similar numbers are likely to have been found in the same location at the same depth.

Given the earliness of the dating for lead figurines, it is important to examine the sealing evidence as well, to try and determine whether some of these figurines were truly used during the Hittite Empire period. Seal b1651 assists with this because the type, biconvex, is dated to a small window of 1400-1280 BC (Fig. 7a).<sup>14</sup> Other bi-convex seals were discovered at the site, but none others in the same square with noted clay figurines. Furthermore, seal b2225, which was found along with it, had Hittite hieroglyphs and seal b2240 has been compared to seals of the Middle Minoan II-III period.<sup>15</sup>

The rest of the diagnostic mid-2<sup>nd</sup> millennium seals were identified by Dusingberre in 2005 in her publication of the Gordion seals.<sup>16</sup> Seal 1536 was found in an area overlapping with the find spot of clay figurine e454 (Fig. 8a). Unfortunately, there is too little information about the find spot of the figurine to see how related these pieces might be. Clay figurines b1436 and b2438, however, are more promising. b1436 (no image available) was discovered along with seal b1462 at the same depth in square GG11 (Fig. 8b) and b2438 was excavated from the same square as seal b2439 in level 10T (Fig. 8c). Clay figurines b2475 and b2474 (no image available) were 1.1-1.4 m above seal b2559, as well as above clay tablet b2700 (Fig. 8d). At first glance, at least, this makes it seem later than both, though one cannot neglect the role of pits in disturbing the evidence from the site. Lastly, clay figurine d919 was discovered

<sup>11</sup> Level 10cT/Level 1 Complex 1.

<sup>12</sup> Marchetti 2003.

<sup>13</sup> The latest example of this type was found at the Syrian site of Umm el-Marra (Marchetti 2003: 406; Tefnin 1990).

<sup>14</sup> Gorny 1993: 176 and 190.

<sup>15</sup> Pini 2007: 4.

<sup>16</sup> Dusingberre 2005: 34-37; von der Osten 1937 Part II: 214 fig. 251.



Fig. 8. Mid-2<sup>nd</sup> millennium seals found with clay figurines.

15-90 cm above seal d975 (Fig. 8e).<sup>17</sup> More generally, seal e1993, with Hittite hieroglyphs, was discovered just one square over from clay figurine e1934, in the same level 4cM (Fig. 5 and 8f) and clay figurine c2052 was found above seal c2168, another seal with Hittite hieroglyphs, which also came from level 4cM (Fig. 8g).

The last and most obvious way that these figurines might be dated is through comparison with other figurines from the Middle Bronze Age discovered elsewhere. Unfortunately, there are very few which have been found and/or documented in Anatolia. These sparse examples come from the sites of Salat Tepe, Eskiypar, Boğazköy, Oylum Höyük, Çadır Höyük and Seyitömer Höyük. From most of these, with the possible exception of Seyitömer, very few clay anthropomorphic figurines dating to the Hittite period have been documented.<sup>18</sup> At Boğazköy three figurines provide comparanda for Alişar Höyük: 1231, 1234, and 1236.<sup>19</sup> These are dated to the early Hittite period. 1231 comes from the Büyükkale, while 1234 and 1236 came from the lower city. Salat Tepe is perhaps the best site to examine a comparable in situ context for the most common type of clay figurines found at Alişar. Several examples of figurines in Levels 4 and 5 of Salat Tepe were placed in the foundations of walls, as with the aforementioned recorded example from Alişar.<sup>20</sup> In one instance, two baked clay figurines, very similar to Alişar figurines 1445 and d919 or b2056, one male and one female, were placed at the base of a wall along with a miniature altar and bowl. Ökse notes that similar practices are known from Tell Selenkahiye.<sup>21</sup> In another instance, in a pit dug into a collapsed Level 2 wall at Salat Tepe, a bowl was buried along with a broken unbaked clay female figurine – similar to Alişar b1406/1400 and c596 – and a figurine from the site of Çadır Höyük (ST 7, in the Step Trench, on the eastern slope), which is near to Alişar.<sup>22</sup>

Outside Anatolia, as noted above, similar figurines come from the sites of Tell Mardikh, Sirkeli, Mishrifeh, Tell Halawa, and Tell Selenkahiye. At the site of Tell Mardikh, two figurines dated to the MBIIB period have similar appliqué decoration, in particular in the medallion located on the chest (e.g. Alişar 2383).<sup>23</sup> Similarly, due to the appliqué decoration and the pointy head/hat as in Alişar's b2242, one can point to similarities with figurines from Mishrifeh – MB IB,<sup>24</sup> and Sirkeli – MB IIA,<sup>25</sup> Oylum Höyük – MB IIA,<sup>26</sup> and Tell Halawa – MBII-IIA.<sup>27</sup>

<sup>17</sup> Schmidt 1932: 106-107.

<sup>18</sup> The Seyitömer figurines have yet to be published except for a Master's Thesis by Sevcan Silek in 2010 and unfortunately the image section of that thesis is not readily available.

<sup>19</sup> Fischer 1963: INV-NR 279/0 Buyukkale x/9-10, INV-NR 220/p Unterstadt J/20, Schicht 1, INV-NR 838/b Unterstadt L/18 by a House on a slope.

<sup>20</sup> Ökse 2015: 124.

<sup>21</sup> Van Loon 1979: 100, 102-103; 2001: 6.343; Cooper 2006: 117; Peyronel 2008: 795.

<sup>22</sup> Ökse 2015: 126; von der Osten 1937 Part III: fig. 269 c596; communication from Sharon Steadman.

<sup>23</sup> Marchetti 2007: fig. 1.11 and 12.

<sup>24</sup> Marchetti 2007: fig. 2.20.

<sup>25</sup> Marchetti 2007: fig. 3.53.

<sup>26</sup> Marchetti 2007: fig. 4.60-1; Özgen, Helwing, and Tekin 2001: 57, fig. 26: 2; Özgen and Helwing 1997: 65-71, figs. 2-5, 8.

<sup>27</sup> Marchetti 2007: fig. 4.66-71.

b2941 is like an example from Tell Mardikh with a four pronged base dated MB IIB.<sup>28</sup> e898 also shares many similarities with several MB II figurines with its pinched nose and appliqué eyes.<sup>29</sup>

There are also a few figurine types from the site that have just one exemplar, but comparanda elsewhere (Fig. 1). b2345 is similar to figurines from southeast Turkey and Syria that Marchetti has shown range in date from MBIIA to LBIA.<sup>30</sup> b1718 is similar to a figurine attached to a vessel at Eskiypar (Çorum area) dated to the 17<sup>th</sup> to 16<sup>th</sup> century BC and held at the Museum of Anatolian Civilizations in Ankara.<sup>31</sup> The figurine from the site of Eskiypar, a site which lies on the road between Boğazköy and Ortaköy – e631, makes a gesture that is otherwise unknown at Alişar and has applique eyes that are simple round circles unlike more of the other figurines with appliqué eyes and is generally more akin to Neo-Hittite figurines. 2055 is unique due to the presence of a cavity in the back, a practice seen in the Balkans during the Neolithic and Chalcolithic and is not found elsewhere.<sup>32</sup> Lastly, 2296, a blue glazed figurine said by von der Osten to be a Mesopotamian import was the only figurine to come out of Plot XIII.<sup>33</sup>

All of this chronological evidence points to the figurines from Alişar Höyük representing practices associated with the second quarter to the middle of the 2<sup>nd</sup> millennium. Therefore, the material overlaps the end of the Assyrian Colonies period and the beginning of the Hittite Empires period, representing continuity between the periods. What remains to be done is to elucidate the reasons behind the deposition of clay anthropomorphic figurines and the rituals that might have utilized them, given the contexts discerned here. The goal of this work, beyond clarifying context at Alişar Höyük has been to encourage utilizing a mixture of resources, including publications and archival material, to understand the archaeological context of finds at least 90 years old, which still deserve analysis. This work complements excavations that have long since ended as well as those that are currently taking place and represents an advancement in knowledge that did not necessitate inherently destructive excavation.

<sup>28</sup> Marchetti 2007: fig. 1.11.

<sup>29</sup> von der Osten 1937 Part III: fig. 269 e898.

<sup>30</sup> Marchetti 2003.

<sup>31</sup> Museum of Anatolian Civilizations 1997 p. 125 fig. 195 (17<sup>th</sup>-16<sup>th</sup> cent. BC); Martino 2014: 134.

<sup>32</sup> Martino 2014.

<sup>33</sup> Von der Osten and Schmidt 1930 Part II: p. 36-37; d2971 is of a similar type.

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## THE 'AYNALI MARTINI': THE OTTOMAN ARMY'S FIRST MODERN RIFLE

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### *Abstract*

*The Russo-Turkish War of 1877-1878 is generally recognised as the most calamitous of the several wars fought by the 'modernised' Ottoman Army of the late 19<sup>th</sup> century as it ended with the Russian army at the gates of Constantinople in the west, and in occupation of Erzurum in the east. The only major Ottoman feat of arms in that campaign was the 'Plevna delay', where between July and December 1877, the garrison of Plevna, under Nuri Osman Paşa, resisted two major attacks by Russian forces and a third with their Romanian allies, thus preventing the Russians from advancing on Constantinople until the following year. The successful defence of Plevna was to a great extent due to the defensive earthworks built there by the Ottoman garrison and which resisted all attempts at destruction through artillery fire. But the main factor in the 'Plevna delay' was the wholesale employment by the Ottoman garrison of the Peabody-Martini rifle, a weapon that had only recently entered the Ottoman infantry inventory. While the story of the Siege of Plevna itself within the wider context of the Russo-Turkish War of 1877-1878 is well known among those interested in the military affairs of the period, the history and nature of the rifle that played so significant a role there – its biography, as it were – is not well known outside of specialist military reference works, a vacuum this article seeks to fill.*

### INTRODUCTION

The defeat suffered by the Ottoman Empire in the Ninth Russo-Turkish War of 1877-1878, the eleventh such conflict between the two states in a series stretching back to 1568-1570, and the fourth in the 19<sup>th</sup> century alone, was the most disastrous of them all. At the end of the '93 War, as it is often referred to in contemporary and even some modern sources, from the Islamic year it began, 1293, one Russian army was encamped at San Stefano (Ayastefanos, today Yeşilköy), with an unimpeded view towards Constantinople's Land Walls, and a second

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was ensconced in Erzurum, the key strategic point for the defence of Eastern Anatolia. Moreover, the war was brought to its end only by the intervention of the 'Great Powers' in a strange alliance of disparate countries led by Great Britain and bonded only by fierce opposition to a Russian capture and subsequent annexation of Constantinople, the key to the Black Sea and trade routes beyond.

The reasons for the Ottoman defeat – or, rather, collapse – in the face of the Russian advance on Constantinople in 1877-1878 are many and various and have been discussed and analysed by numerous scholars from the moment the war ended to modern times. All agree, however, that there was one bright flourish of Ottoman military glory in the campaign, the fierce resistance of the garrison at Plevna (modern Pleven, Bulgaria). Under its commander, Nuri Osman Paşa this held firm for almost five full months, from the 20<sup>th</sup> July to the 10<sup>th</sup> December 1877, despite repeated shelling and three major attacks, a Romanian force joining the Russians for the last of these assaults, and only surrendered owing to the application of the age-old method of circumvallation and consequent starvation.<sup>1</sup> Thus the 'Plevna Delay', as the Russian operational plan envisaged its army being at Constantinople within five weeks of the campaign's start, and so by September 1877,<sup>2</sup> not in January 1878 as happened. Quite simply, while Plevna evaded capture the main Russian force dared not commit itself to advancing on the Ottoman capital for fear of an attack from the rear. But what is more, this 'Plevna Delay' permitted the 'Great Powers' of the time to rally together and under British leadership oblige Russia to withdraw – even as its army was at the gates of the 'City of the World's desire'. Hence the 'Sick man of Europe' was granted 'another forty years of life'.<sup>3</sup>

The 'Plevna Delay' owed much to the superb system of earthwork defences and redoubts Nuri Osman Paşa caused to be provided around the town. These were so well-designed and constructed that, combined with inferior Russian artillery and gunnery, the defenders survived several bombardments essentially unscathed, three of great severity in pursuance of 'softening up' the occupants prior to major infantry attacks.<sup>4</sup> But the key factor in the defence against all three main attacks on Plevna was the garrison's use of its standard service firearm, the Peabody-Martini Rifle. It was the Ottoman Empire's first modern rifle and at the time of its introduction also one of the most advanced infantry firearms of the period. Popularly known to Turkish-speaking users – official and unofficial – as the 'Aynalı Martini', or 'Mirrored Martini',

<sup>1</sup> There are several contemporary or near contemporary works in English that provide detailed accounts of the Siege of Plevna and the 'Plevna Delay', e.g., Hozier 1877; Greene 1879; Herbert 1895; Trotha 1896; Ryan 1897; and Maurice 1905. There are naturally a number of accounts in other languages, in particular the full-length near-contemporary Ottoman account of the siege in Osmanlıca translated into Turkish with a commentary: Talat and Yalazan 1997. Of the many others, the various parts devoted to the siege in Grzesicki and Wiedstruck 1902 are especially informative, as their volume was translated directly from the official Russian account of the war for the benefit of the Austrian High Command. The only 'modern' works in English are those of Furneaux 1958, and the Plevna-focussed chapters in Barry 2012 (the account provided by Trenk 1997 is untrustworthy in some respects).

<sup>2</sup> Cf. Barry 2012, 104.

<sup>3</sup> Taylor 1980, 245. Despite the 'Plevna delay' being a crucial event in Ottoman history, with a wide-ranging impact on international affairs in the 'Great Game' of the time, its 140<sup>th</sup> anniversary in 2017 was not apparently marked in any obviously public way in Turkey.

<sup>4</sup> Cf. Ryan 1897, 220-224.

in reference to the steel plates housing its firing mechanism,<sup>5</sup> it was introduced into Ottoman military service in 1874, and remained ‘on the books’, as it were, until at least the First World War. Yet despite this long and valued period of service, a comprehensive account of its development and employment in Ottoman use is wanting, what detailed information there is on the subject being scattered through several reference sources, some difficult to obtain in the normal run of things.<sup>6</sup> Hence this article which attempts to rectify this omission.

#### ‘NEWFANGLED JIMCRACKS’

The ultimate origins of the Peabody-Martini Rifle can be traced back to the American Civil War of 1861-1865, an episode in history that holds a pivotal place in the development of many modern military tactics and weaponry. On the one hand it was the last major conflict fought with both sides using Napoleonic-style field tactics: a reliance on in-line formations and blanketing firepower with artillery focussed of the planned point of attack, followed at the appropriate moment by close combat with the bayonet as the decisive armed strike.<sup>7</sup> On the other hand, it was the first modern war in that the two sides used a wide range of recently developed (and so ‘modern’) technologies in addition to those standard field tactics in support of a major campaign, all of these new systems being ancestral to many in use today. So, for example, communication methods, using the telegraph, along with defined transport routes, in this case the railway network, for concentrating troops and supplies where needed; aerial reconnaissance with balloons, providing information regarding enemy positions on the eve of and during battle; and last but not least new infantry weapons. It is the latter that is relevant here, for aside from other weapons deployed for the first time in full-scale combat, such as rifled musketry firing an aerodynamically-shaped projectile (the ‘Minié Ball’) and the Gatling Gun, the American Civil War also saw the appearance in battle – if on an occasional basis only – of the breech-loading rifle, a weapon that greatly increased a soldier’s rate of fire, and the precursor of modern infantry weapons.

The advantages of a breech-loading long firearm for rapid firing by infantry troops were known well before the Civil War. Indeed, in 1819 the US army had adopted for limited service use the breech-loading Hall Model 1819 Rifle once it was shown how a man with this could fire between eight and ten rounds in one minute, against the three or so shots managed

<sup>5</sup> As in, e.g., the folk ballad ‘*Hekimoğlu derler benim aslıma*’. Cf. the way by which the Winchester Model 1866 repeating rifle was generally known as the ‘Yellow boy’ in reference to the yellow gunmetal used for its receiver mechanism: Trevelyan 2016, 41.

<sup>6</sup> For earlier brief accounts, see: Hull 1979, 20-22; Achtermeier 1980, 38-43; Seel 1981a; and Hintermeier 2001. None of these provides a fully detailed account of the rifle from its introduction up to the end of its service life, which is attempted here. That aside, note that in this article as a whole, paired references have been given where possible to compensate for the general lack of availability of much of the rarer source material used except for those with access to a specialist library or Inter-library loan system.

<sup>7</sup> As according to the dicta of, for example, the Russian General A. Suvorov, such as: ‘The bullet is a mad thing; only the bayonet knows what it is about’, and ‘Attack with the cold steel! Push hard with the bayonet’: cf. Duffy, 1982, 191-192.

in the same time using a muzzle-loading musket.<sup>8</sup> However, senior officers in the US army resisted the full-scale adoption of this or similar weapons for various reasons. Some, for instance, with no sense of irony, disparaged the speed with which the soldier could shoot-off ammunition causing – it was feared – potentially fatal ammunition supply problems in battle; others were concerned that such rapid-firing using the then standard black powder charge might foul and so jam quickly the breech chamber, requiring a dangerous pause while cleaning the weapon during combat; still others noted how the imperfect sealing of the chamber and resulting loss of pressure observed in countless models of breech-loaders submitted for official trials reduced the effective range of any bullets fired from such a weapon.<sup>9</sup> These attitudes prevailed even as the Civil War was in progress despite the unquestioned success in action of the breech-loaded Sharps Model 1859 Rifle and its carbine version used by two specially formed regiments of snipers commanded by Major General Hiram Berdan – and so the term ‘Sharpshooter’ for a marksman. Old attitudes died hard, with Colonel J.W. Ripley, the Union’s head of the Ordnance division in the Civil War period, allegedly dismissing such weapons as ‘newfangled Jim-cracks’, ostentatious items that had no real functional and so no real combat value.<sup>10</sup> Especially so, given their weight, price, and reliance on specialised ammunition.<sup>11</sup>

Thus the American Civil War began with troops mainly equipped with smooth-bored muzzle-loading muskets alongside a relatively small number of men who had one or other version of a rifle, that is to say, a long firearm with a rifled-barrel ensuring greater accuracy, although over time the armies of both sides gradually replaced their muskets with rifled weapons, typically the Springfield Model 1861 or British Pattern 1853 rifle. Like the muskets they replaced, however, these were muzzle-loaders also, the only breech-loaders in rare use by either side, such as the Sharps Model 1859, being generally privately purchased. Even so, from President Lincoln downwards, the clear superiority of breech-loaders over musket-loaders in terms of their firing-rate could not be ignored.<sup>12</sup> And as the war progressed, many private inventors sought to develop a suitable breech-loading mechanism for military use, and so win a potentially lucrative arms contract, one of them being the Boston resident Henry O. Peabody: and so the development of the eponymous mechanism, which went on to become the basis of two of the most famous rifles in military history: the British Martini-Henry and the Ottoman Peabody-Martini.<sup>13</sup>

<sup>8</sup> Walters 2006, 159, with Huston 2004, 114–115, and Rose 2008, 75–88.

<sup>9</sup> Cf. Huston 2004, 129–130, with 190; and Emerson 2004, 6. In 1858, William Greener, a contemporary authority on small arms, observed himself how the lack of an effective seal to then existing breech-loading mechanisms resulted in weapons that did ‘not shoot nearly so well, and are not half so safe, as muzzle-loading guns’: Greener 1858, 335–337.

<sup>10</sup> Kurtz 2006, 143, with Bruce 2011, 112.

<sup>11</sup> Trevelyan 2016, 19.

<sup>12</sup> Bruce 2011, 116

<sup>13</sup> The principal modern summaries for the activities of H.O. Peabody and the adoption of his mechanism by the Providence Tool Company of Rhode Island, who produced the Peabody-Martini rifle and carbine, are Hull 1978, and Achtermeier 1980, 28–44, the latter being based almost entirely on the analysis of the company’s papers as presented in Stewart 1973, a work only viewable at Brown University, RI.



## THE PEABODY MECHANISM

The Peabody mechanism, as fully formed in 1862, was developed – as was the way of the world – on earlier such devices, including, among others, the trigger-guard lever system for opening and closing a falling block mechanism for loading and firing as employed in the Sharps Model 1859 Rifle. What distinguished Peabody's system in the first instance from this and other breech-loaders then being developed was in part a smoother operating breech block for loading and ejecting a round, using a rear hinge, along with a proprietary metallic cased cartridge, as opposed to a paper or linen-wrapped one, this being detonated by a hand-cocked hammer system on the right hand side of the receiver. But another vital contribution to the future development of breech-loading mechanisms for military use was, as the patent explained, a spring system in the receiver that did '*not merely draw out the [fired] cartridge-case but throws it out with such force as to throw it over the breech-frame and entirely clear of the gun, thereby obviating the necessity of using the fingers in any way for its removal*'.<sup>14</sup> In other words, the rifle could be loaded, fired, and re-loaded in a series of five simple actions: pushing the lever mechanism down with one hand to open the breech ready for loading; inserting a cartridge; pulling up the lever to close the breech while cocking the hammer simultaneously with the thumb; firing the rifle; and then pushing down the lever to open the breech and eject the spent cartridge ready for inserting a new one.<sup>15</sup>

Peabody's load, fire, and eject system showed its worth in US army trials in May 1862, where field use revealed a firing-rate of ten rounds a minute: but as the US Ordnance Board was then in process of deciding on a suitable calibre bullet for army use no decision was made as to its possible adoption.<sup>16</sup> On the other hand, the reliability and simplicity of the Peabody mechanism did catch the eye of J.B. Anthony, of the Rhode Island-based Providence Tool Company (hereafter the PTCO), who on the 26<sup>th</sup> October 1864 leased its use possibly with a view to converting muzzle-loaders to breech-loaders, a process then popular with the US Army's Ordnance Board.<sup>17</sup> Then, when a further series of trials to select a breech-loading rifle for future army use were announced for December 1864 to 9<sup>th</sup> April 1865, the PTCO submitted a rifle fitted with the Peabody mechanism and its proprietary cartridge for assessment, this being chosen for field trials alongside 19 others selected from an initial 65 models.<sup>18</sup> J.B. Anthony learnt that the PTCO entry was selected as the best choice available before any official announcement was made on the matter and bought the full use of the patent on 15<sup>th</sup> April 1865.<sup>19</sup> But, as it was, the Civil War ended before this prototype of the future Peabody Military Rifle – and so the direct ancestor of the Peabody-Martini and the Martini-Henry Rifles – was confirmed as the winner of these trials, thus ending any urgency to develop and adopt an en-

<sup>14</sup> Cf. US patent 35947 A, granted on the 22<sup>nd</sup> July 1862.

<sup>15</sup> Cf. the contemporary illustrations in Norton 1880, 42, and republished in Hull 1979, 16.

<sup>16</sup> Hull 1979, 7.

<sup>17</sup> Achtermeier 1980, 30, contra Hull 1979, 23.

<sup>18</sup> As per the letter written by J.B. Anthony to his colleagues that day, transcribed in Hull 1979, 47 and Achtermeier 30-31.

<sup>19</sup> Cf. Hull 1979, 8, with Achtermeier 1980, 30, where the year the patent was bought is erroneously given as 1864, one year before the trials took place.

tirely new breech-loading army rifle for service use. Instead, now that hostilities had ceased, the head of the US Army Ordnance Board recommended in his report for 1865 that the possibility of converting existing war-surplus stocks of muzzle-loading rifles to breech-loaders be examined, using a method developed by ‘*the master armorer at the Springfield Armory*’.<sup>20</sup> This was a natural and, of course, more economical alternative to paying for the development and production of an entirely new breech-loading rifle given how some one million Springfield Model 1861 Rifles had been produced for US army use during the Civil War,<sup>21</sup> along with perhaps as many English Pattern 1853 Rifles, of which a substantial number would have survived the fighting in working order.

If nothing else this decision confirmed the advantages in combat of breech-loaders over muzzle loaders, an advantage that could no longer be ignored among serving officers of the United States military. Or elsewhere, for that matter, the French and British governments, for example, having taken steps as the Civil War came to an end to convert their stocks of muzzle-loading muskets into breech-loaders as an interim measure while searching for acceptable purpose-made versions.<sup>22</sup> Forward thinkers in the US Army likewise argued for the eventual adoption for service use of a purpose-built breech-loading rifle rather than a weapon converted this way and so another series of trials for these was held in May-June 1866, with weapons firing the now agreed calibre of .45: yet again, a rifle submitted by the PTCO using the Peabody mechanism performed well enough to be identified as the lead contender – only for the Ordnance Office to again delay a decision with further trials at some unspecified future date.<sup>23</sup> The decision evidently did not dishearten J.B. Anthony entirely, though. As early as January 1865 he had begun exploring foreign military and local markets for sales of both a military and a civilian hunting and sporting version of ‘Peabody’s Patent Breech-Loading Rifle’, stating in an advertising broadsheet issued at the time by the PTCO how: ‘*The rapidity with which it can be loaded and fired is believed to be equal, if not superior, to that of any [other] breech-loader, and in continuous firing to that of any repeater*’.<sup>24</sup>

<sup>20</sup> Cf. Norton 1880, 14 with 24. The ‘master armourer’ was E.S. Alin: hence these converted rifles are often referred to as the ‘Alin’ Springfields, the first versions being the M.1865, superseded by the M.1866, with the M.1873 becoming the standard infantry rifle: Walters 2006, 461–462.

<sup>21</sup> Cf. McChristian 2006, 29–30; and Knapp 2002, 401.

<sup>22</sup> The British chose eventually to convert their Pattern 1853 Enfield rifles with a breech-loading and side-hammer ignition system developed originally in 1862 by the American J. Snider and the Frenchman F.E. Schneider (cf. Clode 1869, 534–536), and adapted for British service use with a metallic-cased cartridge designed by their Colonel E.M. Boxer: thus the introduction into service in late 1866 of the P.1853/66 ‘Snider Enfield’ rifle and its ‘Boxer’ cartridge (Walters 2006, 456–457). The French meanwhile converted their *Mle 1853-54* muskets with a Snider-type mechanism, but relied on a paper-wrapped cartridge for their *Fusil Mle 1867* or ‘Tabatière’ rifle (Walters 2006, 480).

<sup>23</sup> Norton 1880, 24; cf. Hull 1979, 9–10.

<sup>24</sup> A reproduction of the January 1865 PTCO catalogue is published in Hull 1979, 45–46; the reference to the repeater is to the Winchester Model 1866 Rifle, a repeating rifle with its tubular magazine holding 15 or more cartridges.

## THE KÖNIGGRÄTZ EFFECT

The Battle of Königgrätz (Hradec Králové), on 3<sup>rd</sup> July 1866, between Prussia and Austria, likely greatly calmed any remaining doubts senior military officers in many countries may have yet harboured about the combat value of breech-loading rifles. The universal opinion as events moved incrementally towards the battle, which many observers recognized as the deciding contest in the so-called ‘Seven Weeks’ War’, was that the Prussian army would be defeated with major losses: after all, it had not faced a major European power since the Battle of Waterloo fifty years before, and despite its success against Denmark in the Second Schleswig War of 1864, it was better known for its skill and appearance on the parade ground rather than the military field.<sup>25</sup> In the event, though, the Austrian army was effectively annihilated, with losses of some 45,000 against 10,000 Prussian killed and wounded, the complete destruction of the Austrian forces being prevented only by the judicious use of their cavalry. What brought about the surprising Prussian victory was its use of the bolt-actioned breech-loading ‘*leichtes Perkussionsgewehr Model 1841*’. Better known as the ‘*Zündnadelgewehr*’ or ‘Needle-firing gun’, on account of its percussion method, using a long needle-like firing pin, this weapon, which had seen limited service use in the Second Schleswig War, had an effective range of 730–1,100 m., and could be loaded, fired, and re-loaded from a standing, kneeling, or prone position, at the rate of six or so rounds per minute.<sup>26</sup> Thus the Prussian infantryman had a distinct advantage over his Austrian counterpart using a standard muzzle-loading firearm, fortunate indeed if he could fire two rounds a minute, and who had to either stand or kneel when reloading, forming a clear target for his opponent.<sup>27</sup>

Even non-military specialists saw how the overwhelming Prussian success at Königgrätz was due in the main to their breech-operated *Zündnadelgewehr*.<sup>28</sup> As such, it is likely to have provided the impetus for the military of those nations lacking the industrial base for large-scale weapons production to seek abroad for reliable breech-loading rifles to equip their own armed forces. Be that as it may, it was surely hardly coincidental that in the months following immediately on from Königgrätz the PTCO received a rash of requests from outside of the USA for trials of their Peabody Military Rifle – presumably on the basis of its proven success in trials before the US Ordnance Board, even though the US Army itself had not accepted it for military use. What is certain is that already in August 1866, the Province of Canada tested and in September approved the purchase for its militia and volunteer units of 5,000 ‘Peabody military muskets’, each priced at US\$ 25.<sup>29</sup> The following month the Peabody Military Rifle was trialled by Austria, although the Austrian High Command settled eventually on a locally-derived version of the falling block system developed by J. Werndl, and in some respects

<sup>25</sup> E.g., Friedrich Engels, writing on 20<sup>th</sup> June 1866, before the battle: cf. Engels, 1975a, 173.

<sup>26</sup> Strachan 1985, 38–40.

<sup>27</sup> Cf. Fuller 1958, 139.

<sup>28</sup> Cf. Engels, writing on 6<sup>th</sup> July 1866, giving full credit to the *Zündnadelgewehr* for the Prussian victory: cf. Engels 1975b, 188.

<sup>29</sup> ‘Muskets’ still being the colloquial term for ‘long firearms’. For details of the Canadian contract, cf. Hull 1979, 11 and 49, with Achtermeier 1980, 32–33. As it was, 3,000 only were delivered as in March 1867, Ottawa used a contract option allowing them to cancel any further deliveries once that number had been delivered: Hull 1979, 11.

influenced, it is said, by the Peabody design.<sup>30</sup> Further trials were commissioned later that same year by Denmark and by Russia, although in the event neither submitted an order;<sup>31</sup> and by the Swiss also, who followed through with an order for 15,009 in June 1867.<sup>32</sup> This perhaps persuaded Prussia to test an example of the Peabody Military Rifle in September 1867,<sup>33</sup> although nothing further came of that. Then on the 4<sup>th</sup> April 1868 came an order from Romania, an Ottoman vassal state with a semi-independent status, for 15,000 Peabody Military Rifles, with the order for another 10,000 coming that October.<sup>34</sup> By the end of the year Spain had ordered around 30,000 Peabody Military Rifles and Carbines for its garrison in Cuba, and a contract came from Mexico in 1870 for 8,500.<sup>35</sup> But what must have formed the *crème de la crème* of the PTCO order book for the period 1866-1870 was the 1870 agreement with France to supply 35,000 Peabody Military Rifles and perhaps as many as 16,000 older muzzle-loading rifles converted to breech-loaders using the 'Peabody system', this being to compensate for the shortage of their own *Mle 1866* 'Chassepot' rifles, needed urgently in response to a Prussian threat of war.<sup>36</sup> This threat became a reality with the outbreak of the Franco-Prussian War of 1870-1871, by the end of which some 39,000 Peabody Military Rifles were reportedly held in French ordnance stocks.<sup>37</sup>

Even as these sales confirmed the efficiency of the Peabody mechanism others looked to improve it. This became clear to the PTCO in June 1867 when a Peabody Military Rifle was entered in a series of trials before the Ordnance Select Committee of the British Army to choose a breech-loading rifle for future service use. Among the other competitors was a rifle submitted by the Swiss-Hungarian Friedrich von Martini and it soon became obvious that his system was an 'improved' version of the Peabody mechanism, presumably developed after the Swiss army received samples of the Peabody Army Rifle for testing in 1866.<sup>38</sup> Martini's mechanism incorporated two incremental refinements of great significance, the first allowing the cocking of the mechanism by lifting the lever action, the second eliminating the external hammer firing system entirely in favour of central firing pin, so allowing the use of a more

<sup>30</sup> Cf. Norton 1880, 97 and 99; with Hull 1979, 11.

<sup>31</sup> Denmark: Norton 1880, 29, and Hull 1979, 11; Russia: Hull 1979, 12. For the PTCO's decision not to pay a 'fee' for an already provisionally agreed Russian contract, so losing this to Colt's Berdan Rifle, see Achtermeier 1980, 33. Irony of ironies, as the 1877-1878 War saw the Berdan matched in combat against the Peabody-Martini, and an American military observer considered the Berdan no match for the Peabody-Martini (Hozier 1877, 353), although it was notorious for the destructive power of its bullet (e.g., Ryan 1897, 132, 133, and 143).

<sup>32</sup> Norton 1880 28-29; Hull 1979, 12; Achtermeier 1980, 3-34.

<sup>33</sup> Norton 1880, 31; Hull 1979, 12

<sup>34</sup> Norton 1880, 29; Hull 1979, 12; Achtermeier 1980, 34-35: the initial order was for rifles chambered at .41 calibre, as used by the Swiss army, but the second required rifles chambered at .45 calibre, known by then to be superior in terms of its ballistic properties.

<sup>35</sup> Norton 1880, 29, with Hull 1979, 14, and Achtermeier 1980, 36.

<sup>36</sup> Achtermeier 1980, 35-36 for these totals, but Norton 1880, 29, and Hull 1979, 14, speak of 39,000 rifles, Hull noting some carbines also. For the Peabody conversion system, see Hull, 1979, 52.

<sup>37</sup> Hull 1979, 14, where it is stated that 33,000 were delivered, and notes examples with German markings, evidently captured during the war. According to Achtermeier 1980, 36 and 71, of the 51,000 total he claims were ordered, about 33-39,000 were delivered before 1871, some of these being offered after the war to Romania, but leaving the PTCO with the rest and an unpaid bill for these.

<sup>38</sup> Norton 1880, 28-29; Hull 1979, 12; Achtermeier 1980, 33-34; and Rose 2009, 182.

reliable centre-fire cartridge. The resulting mechanism had a somewhat higher rate of fire as three simple movements only were involved in its operation: opening the breech and loading a cartridge; closing the breech which cocked the weapon simultaneously; then, after firing, opening the breech and ejecting the spent cartridge ready for reloading.<sup>39</sup> On the 11<sup>th</sup> February 1868, the British Ordnance Select Committee recommended the adoption of Martini's mechanism for further testing in combination with a barrel using the rifling system demonstrated in the same trials by Alexander Henry along with the 'Boxer' metallic-cased cartridge. However, an extended series of trials was to follow before a final version of the 'Rifle, Breech-loading, Martini-Henry' was approved formally for British army use on 12<sup>th</sup> October 1874.<sup>40</sup>

Martini had applied on the 22<sup>nd</sup> July 1868 for a provisional British patent for the mechanism he submitted to the British trials, receiving a formal grant on the 22<sup>nd</sup> January 1869.<sup>41</sup> This gave Peabody and the PTCO a chance to open a law suit in London on the 14<sup>th</sup> April 1869 for patent infringement.<sup>42</sup> But, although Martini later freely admitted in print that his mechanism owed much to the Peabody system, he successfully argued how the basic concept behind the falling-block mechanism, on which the law case centred, was in common use.<sup>43</sup> Then, as if to add salt in the wound, he went on to apply for and win a US patent on the 25<sup>th</sup> May 1869 for his 'certain new and useful Improvements in Breech-Loading Fire- Arms', following this with upgraded versions of the mechanism on the 30<sup>th</sup> May 1871 and the 15<sup>th</sup> October 1872.<sup>44</sup>

Meanwhile, the PTCO was still trying to sell its Peabody Military Rifle to the US army and an example was submitted to an Army Board that met on the 10<sup>th</sup> March 1868 with evident success.<sup>45</sup> Even so, it was decided to convene yet another board to re-examine the wider choice of breech-loading rifles now becoming available, this meeting in the summer of 1870 when it surprisingly rejected the Peabody Military Rifle.<sup>46</sup> This was a startling decision in the eyes of the PTCO, given how well the rifle had been received in Europe and elsewhere, and was apparently due to repeated problems with the extractor system owing to imperfect cartridges. Despite appealing the decision so ended J.B. Anthony's efforts and dreams of supplying the Peabody Military Rifle to his own country's army,<sup>47</sup> although the PTCO did manage to sell some of the surplus rifles remaining from the French contract to the National Guards of Con-

<sup>39</sup> Becket 2013, 239-240.

<sup>40</sup> Becket 2013, 241-242. This in its various adaptations became the standard infantry weapon for the late 19<sup>th</sup> century British army, and those of a certain age or who are dedicated cinephiles will know the weapon for its appearance in the film *Zulu*.

<sup>41</sup> GB patent No. 2305

<sup>42</sup> Achtermeier 1980, 34.

<sup>43</sup> Cf. Martini's letter to *The Engineer* for 11<sup>th</sup> June 1869, on his system being an 'improvement' of the Peabody mechanism, and a second in the same paper for 25<sup>th</sup> June 1869 (quoted in Temple and Skennerton 1983, 48), stating how '*That system [i.e., the falling block] is, however, neither peculiar to the Peabody firm, nor is Mr. Peabody its inventor.*'

<sup>44</sup> US patents 90614A, 115546A, and 132222 A; Martini renewed his British patent 2925 on the 31<sup>st</sup> October, 1871.

<sup>45</sup> Norton 1880, 24-25.

<sup>46</sup> Norton 1880, 25.

<sup>47</sup> Norton 1880, 28.



necticut (in 1871), Massachusetts (1872), and South Carolina (1877).<sup>48</sup> Instead it found its future, or so it seemed at the time, in supplying a version of the Peabody Military Rifle to the Ottoman Empire, and so the birth of the 'Aynali-Martini'.

#### THE BIRTH, DEBUT AND END-LIFE OF THE 'AYNALI MARTINI'

As the American Civil War ran its course the types of infantry firearms used in that conflict and their capabilities did not escape the often myopic view common to many governmental dignitaries at Constantinople. The standard Ottoman infantry firearm at the time was one or other form of smooth-bore percussion-fired muzzle-loading musket, although from August 1853 onwards certain elite units were equipped with French- and Belgian supplied *Mle.1849* rifles, capable of a longer range and more accurate firing using the 'Minié Ball'.<sup>49</sup> Even as the Civil War was in progress, though, the Ottoman government saw the need for more modern firearms. Thus in 1863, a rapid modernisation programme was initiated to provide its infantry and cavalry with these. There followed an initial order with a consortium of Birmingham gunsmiths for 50,000 rifled muzzle-loading Enfield muskets of the type favoured by both sides in the American Civil War, and a second in 1865 for 21,000 Enfield rifles fitted with breech-loading Snider mechanisms along with 6,000 of these devices for converting muzzle-loaders into breech-loaders, a third order for 3500 more rifles being placed in July 1868.<sup>50</sup>

The Bab-i-Ali then explored what surplus weaponry was available in the United States, leading in 1869 to a contract for 114,000 'English Enfield's' and 125,000 US 'Springfield's' at \$4 and \$7 respectively, with an option on another 120,000 Enfield's supplied at a later date, all of these firearms, along with the initial Birmingham purchases, being subsequently converted to the Snider breech-loading system at the Tophane, the official armoury in Constantinople.<sup>51</sup> In addition, between 1870 and 1871, the Ottoman government received from the Winchester Repeating Arms Company between 46,000 and 56,000 of their Model 1866 repeating rifles and carbines,<sup>52</sup> the latter intended principally for use by the Ottoman dragoon regiments, but also by a small number of other mounted troops.<sup>53</sup> The end result was that by 1872, Constan-

<sup>48</sup> Respectively 2,000 and 2,941 of the rifles, and 350 of the carbines: cf. Hull 1979, 15-16.

<sup>49</sup> Engels 1984, 501 (originally published as a leader in the *New York Daily Tribune* 3944, 7<sup>th</sup> December 1853), with Köremezli 2013, 124, and Uyar and Erickson 2009, 171.

<sup>50</sup> Ward 1946, 13, with Taylerson 1983, 472, and Walters 2006, 459-460; but note that Gencer *et al.* 1981, has somewhat different figures and foreign sources also for the Snider conversions used in the Ottoman Empire, a topic deserving further investigation elsewhere.

<sup>51</sup> Cf. Achtermeier 1980, 37; Sander and Kurthan 1977, 56-58; and Seel 1981c, 1578. All contemporary or near contemporary references in Ottoman and other records refer usually to these conversions simply as Snider rifles: e.g., Dwight 1881, 84; Norman 1878, 16, 27, and 48, etc., etc. A common Turkish-language name for a Snider converted rifle was 'igneli tufek' or 'needle gun', as it used a long needle-like firing pin, as with the Prussian *Zündnadelgewehr*.

<sup>52</sup> For the first figure, cf. Williamson 1952, 55-58, *Trevelyan* 2016, 49 and 60, and Seel 1981c, 1578; for the second, Gencer *et al.* 1981, 152 (Tablo 4).

<sup>53</sup> Gencer *et al.* 1981, 152 (Tablo 4). The rifle model is never referenced directly as such in contemporary sources except for one of 1879 reporting losses in the 1877-1878 war (see below, page page 247); the carbine was supplied evidently as a cavalry weapon as is indicated by many contemporary observers, e.g., Maurice 1877, 18; Greene

tinople had received some 512,500 Enfield and Springfield rifles for use by the infantry arm of the Ottoman army, all of these already or about to be converted to breech-loaders,<sup>54</sup> along with possibly as many as 48,314 Winchester rifles, and 18,425 Model 1866 repeating rifles and carbines.<sup>55</sup>

News of the Ottoman re-armament programme using older weapons converted to breech-loaders evidently reached J.B. Anthony. Even though the PTCO had effectively abandoned military weapons production in 1871, after making at least 112,265 of their Peabody Military Rifles, it still had some unsold examples of these left over from the French 1870 contract,<sup>56</sup> and, more importantly, the necessary machinery *in situ* as well as the experienced craftsmen on hand to re-start production of this rifle if a new order came through. Thus on 8<sup>th</sup> February 1872 negotiations began with Constantinople via Blacque Bey, the Ottoman representative in Washington DC, to supply the Bab-i-Ali with 50,000 Peabody Military Rifles,<sup>57</sup> only to come to an abrupt end when Sultan Abdülaziz Bahtsız Şehid received a gift of allegedly as many as 50,000 Martini-Henry Rifles from Ismail, the Khedive of Egypt.<sup>58</sup> These, it is said, so impressed the Sultan that in May 1872 he decided to equip the Ottoman army with the same rifle and a competition was announced to that effect to take place that summer to win a contract for 200,000.<sup>59</sup> Despite submissions from a Birmingham consortium and the Winchester Repeating Rifle Company,<sup>60</sup> the competition was won on the 25<sup>th</sup> July by the PTCO through Blaque Bey and the company's agent in Constantinople, William de St.Laurent, the

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1879, 141 (stressing how dragoon regiments only were supplied entirely with the weapon, along with two squadrons in each lancer unit); Herbert 1895, 23; with Norman 1877 adding that the Winchester was in use also by mounted jandarma (18-19), field artillery gunners (44), and Circassian irregular cavalry (e.g., 112, 114, etc.).

<sup>54</sup> The total is derived from the sources cited in footnote 52 excluding the tables of Gencer *et al.* 1981. Of these weapons, official Ottoman records indicate that an all-round total of some 392,000 were available for service use in 1877: Dwight 1881, 84, with Grzesicki and Wiedstruck 1902, 33.

<sup>55</sup> For the numbers and supply of the Winchesters, see Williamson 1952, 55-58; Trevelyan 2016, 49 and 60; Seel 1981c, 1578; and Gencer *et al.* 1981, 142.

<sup>56</sup> Hull 1979, 14, Achtermeier 1980, 36 and 37.

<sup>57</sup> Hull 1979, 20.

<sup>58</sup> McCoan 1889, 144, with Weigall 1915, 106, are the 'contemporary sources': see also Hull 1979, 20; and Achtermeier 1980, 38. But the accuracy of the 'contemporary sources' for this exceptional generosity on the part of the Khedive is highly doubtful. Aside from the fact there does not seem to be any independent evidence that Martini-Henry Rifles may have been sent to the Khedive this early, the number of 50,000 allegedly presented in this way simply cannot be true as their production had barely started. By the end of 1871 less than 300 had been distributed for evaluation under service conditions (Temple and Skennerton 1983, 84 and 111; Becket 2013, 242), which identified a series of defects requiring modification and so the 'Second Pattern' of the rifle, approved for production on 3<sup>rd</sup> November 1872, with further changes resulting in the 'Third Pattern', introduced officially for service use on 1<sup>st</sup> October 1874 (Temple and Skennerton 1983, 112), although actual examples were not issued on a wholesale basis until 12<sup>th</sup> October 1874 (Becket 2013, 242). Thus while it is not impossible that the Khedive had somehow received or acquired one or more of the Martini-Henry trials rifles by the spring of 1872, the total number made by then cannot have approached anything near the alleged 50,000 at his disposal.

<sup>59</sup> Norton 1880, 62; Hull 1979, 20, Achtermeier 1980, 38.

<sup>60</sup> Norton 1880, 63. An attempt at winning the contract made by the BSA Company in Birmingham, England, then in the process of tooling up for production of the Martini-Henry rifle, failed – it is said – because their samples arrived too late for consideration as their local agent was '*also acting for two firms in the United States [i.e., PTCO and Winchester] and had deliberately held back B.S.A.'s entry in the hope that the order would go to one of the American companies, from which a larger commission could be expected*': cf. Ward 1946, 16.

PTCo agreeing that within six months of receiving the necessary pattern rifles and cartridges, they would supply the first of the 200,000 of their own version of the Martini-Henry Rifle with a 'quadrangular' socket bayonet, at a cost of 63 English shillings apiece.<sup>61</sup> At this point, though, Oliver Winchester, fortuitously in Constantinople acting on his own behalf, made use of his local contacts on 1<sup>st</sup> August to underbid the PTCO by offering the same number of rifles for 62 English shillings each. In the event the threat of a lawsuit from PTCO, as they owned the Peabody section of the mechanism, along with an intervention by the US government, and an awareness of his own company's inability to meet the contract itself, obliged Winchester to surrender the contract to the PTCO as of 1<sup>st</sup> January 1873.<sup>62</sup>

The contract with the PTCO specified that the rifles were to be exact copies of the Martini-Henry Rifle as approved for service use with the British Army with certain specific changes.<sup>63</sup> One was relatively minor, that the tangent-sights be graduated in metres from 1-1,300 using the Persian-based Turkish number-system. A more significant difference was the demand they be chambered for a thinner 'Berdan'-type cartridge, resulting in the 11.43 × 55R 'Peabody-Martini Turkish Military cartridge'. This fired a lead bullet with a nominal calibre of .45 inches, as with the Martini-Henry, but was smaller in diameter than its .577-450 'Boxer' cartridge, and so necessitated modifying the extractor and chambering system of the mechanism, albeit incidentally resulting in a stronger and better sealed and so more efficient receiver.<sup>64</sup> A final adjustment required by the Sublime Porte was that the side of the receiver be stamped with the Sultan's tughra, to denote imperial ownership of the weapon, and the rifle's serial number in Turkish numerals.<sup>65</sup> These differences apart, none of which would be apparent without a detailed examination, the Peabody-Martini Rifle was to be in all effects and purposes a direct clone of the Martini-Henry Mk. I Rifle.

On 11<sup>th</sup> March, 1873, the PTCO appointed Azarian Effendi Père et Fils as their agent in Constantinople.<sup>66</sup> On that same day he negotiated a second contract for a further 300,000 rifles, and then a third on 23<sup>rd</sup> August 1873 for 100,000 more, thus 600,000 in all.<sup>67</sup> The total of 600,000 made this the largest ever contract received by a fire-arms maker in the United States. But a stay in commencing production on the first 100,000 was forced on the PTCO partly by a delay in receiving the agreed three pattern rifles and the specimen cartridges to serve as models for their own product; but also in receiving the necessary cash deposit for full-production. A further complication came in the July of 1873, when Martini, who had patented his system in the US the previous year,<sup>68</sup> opened a claim against PTCO for their intended use of his modified version of the Peabody action. This was not settled until October when Peabody and the PTCO were obliged to acknowledge his 'improvement' to the original Peabody mechanism as in the Martini-Henry Rifle, and the requirement they pay Martini two English shillings

<sup>61</sup> Achtermeier 1980, 38.

<sup>62</sup> Hull 1979, 20-21, and Achtermeier 1980, 38-39, with Sander and Kurthan 1977, 64.

<sup>63</sup> Cf. Achtermeier 1980, 38.

<sup>64</sup> Norton 1880, 67.

<sup>65</sup> Achtermeier 1980, 39.

<sup>66</sup> Cf. Hull 1979, 20-21.

<sup>67</sup> Achtermeier 1980, 39.

<sup>68</sup> US 132222 A of the 15<sup>th</sup> October 1872.



Fig. 1. A standard Peabody-Martini Rifle, shown here with a bayonet tenon on the top barrel band and yataghan-style bayonet as introduced with the final 200,000 versions of the rifle (photograph courtesy of J.P. Sheehan).



Fig. 2. The right side of the receiver of a Peabody-Martini rifle showing the tughra and serial number, and safety catch in the trigger guard, eliminated after 1876 (photograph courtesy of <http://www.militaryrifles.com/Turkey/TpeabMar.htm>).



Fig. 3. The left side of the receiver of a standard Peabody-Martini rifle, with the maker's mark (photograph courtesy of <http://www.militaryrifles.com/Turkey/TpeabMar.htm>).



Fig. 4. A Peabody-Martini breech block opened for loading, showing also the chequered thumb rest characteristic of the Martini-Henry Mk. 1 Rifle (photograph courtesy of J.P. Sheehan).

royalty for each of the new rifles, along with, so it would seem, combining his name with Peabody's when advertising and marketing the rifle.<sup>69</sup>

The end result of these delays and the need to acquire the extra machinery and appropriate manufacturing space was that production of the Turkish contract rifles did not commence until April 1874: but even so, the PTCO was able to deliver the first of their 1,000 Peabody-Martini Rifles by the following March.<sup>70</sup> As required these were essentially indistinguishable from a Martini-Henry Rifle (e.g., Fig. 1). Closer examination, though, naturally revealed the Turkish-numerals on the tangent leaf sight and, more obviously, the tughra stamped above the Turkish-numerals used for the serial number on the right side of the receiver (Fig. 2), the left side stamped 'Peabody & Martini PATENTS / MAN'F'D BY / PROVIDENCE TOOL CO. / PROV. R.I. U.S.A.' (Fig. 3),<sup>71</sup> and the use of a small crescent moon and star symbol above a PTCO inspection letter, for example an 'H', on the barrel bands, the upper right hand side of the receiver plates, the cocking-indicator, and elsewhere (e.g., Fig. 11). Otherwise these 'clones', as it were, were direct copies of the Martin-Henry Mk. I Rifle, down to many of their finest details, to the extent of having the same chequered buttstock end plate, and the chequered thumb rest on the top right of the receiver (Fig. 4).<sup>72</sup>

A more obvious visual difference was only apparent in the form of the socket bayonet supplied with the Peabody-Martini Rifle, for as noted, the contract specified a socket bayonet of quadrangular form (Fig. 5). Moreover, unlike being fitted with the blade parallel to the right-hand side of the muzzle, as was usual for almost all socket bayonets, it was suspended directly beneath the barrel (Fig. 6). The reason for the choice of a quadrangular section and under-the-barrel location are unknown, and are features that at this time were shared only by the Dutch Beaumont Model 1871 rifle, although the Swiss had earlier used quadrangular-sectioned but side-mounted socket bayonets with their Model 1863 and Model 1871 rifles, while the Peabody Military Rifles they bought in 1867 came with a similar model bayonet, as did the Berdan rifled musket used by the Russians. Be that as may an under-the-barrel location might be related to giving the rifle holder a direct line of sight when firing the rifle with bayonet attached and when using the bayonet and rifle as a pike-like stabbing weapon. Whatever, the bayonet itself had an overall length of 23.25 inches (591 mm), with a blade measuring 20.12 inches (514 mm), and weighing around 14 ounces (390 gr.). Thus, when fitted to the 49 inch (124.5 cm) long rifle, it gave a pike-like weapon with a combined overall length of some 5 feet 8 inches (175 cm) from butt to the bayonet point. This seems an excess length in modern eyes but it was deemed essential at a time when 'bayonet reach', the ability of an infantryman to transfix a charging cavalryman or engage an enemy in bayonet combat when there was no chance to re-load the firearm, was a major consideration in infantry weaponry design.<sup>73</sup>

<sup>69</sup> Hull 1979, 21, Achtermeier 1980, 40, Rose 2009, 182.

<sup>70</sup> Norton 1880, 63; Achtermeier 1980, 40.

<sup>71</sup> On some versions of the rifle, the text reads 'PATENT' without the 'S' at the end.

<sup>72</sup> Features such as these make it clear that the Peabody-Martini Rifle was indeed fashioned from an existing production version of the Martini-Henry Mk.1 Rifle, which begs the question of where the three examples of these sent as models from Constantinople came from.

<sup>73</sup> E.g., Burton 1853, 7. Concern over the matter of supplying soldiers with a rifle and bayonet having a long enough reach for close combat with the enemy continued into the First World War as was demonstrated by a British





Fig. 5. A Peabody-Martini socket bayonet and scabbard (photograph courtesy of Mick Hibberd).



Fig. 6. An early production Peabody-Martini Rifle with socket bayonet fixed, demonstrating the novel under the muzzle placement shared with the Dutch Beaumont Model 1871 rifle as opposed to the usual right-hand side position of such bayonets (photograph from the collection of the late John Ward).



Fig. 7. Side view from the right of a Peabody-Martini Rifle with yataghan bayonet fixed to the bayonet tenon on the top barrel band (photograph courtesy of J.P. Sheehan).



Fig. 8. Peabody-Martini yataghan bayonets in their scabbards as seen at the Ankara Antika Pazari, the top one an original length version, with a repaired chape, the bottom one a shortened and straightened version (photographed by the writer with permission of their owners).

With production of the Peabody-Martini Rifles for the Ottoman contracts finally under way yet another halt in production threatened when Alexander Henry, who had patented his rifling system in Britain in 1860 and taken out a US patent on it the 10<sup>th</sup> October 1871, attempted in the early summer of 1874 to claim royalties on its use by the PTCO.<sup>74</sup> His claim was disallowed: as the court heard, the basic concept behind rifled-barrels was well established in the United States and Henry had in any case neglected to apply for a US patent within one year of its publication in Britain as was required by United States law for it to be applicable there.<sup>75</sup> Thus free to continue with production the PTCO managed to manufacture a further 53,600 Peabody-Martini Rifles in the course of 1874, well on the way to satisfying the initial Ottoman contract for 200,000.<sup>76</sup> Indeed, the final weapons for this were delivered to Ottoman ownership by 9<sup>th</sup> November 1874,<sup>77</sup> by when work had commenced on the second contract for 300,000 more.

These two successes were perhaps the reason for J.B. Anthony's visit to Constantinople in January 1875, and his being honoured by the Sultan with enrolment in the Order of the Osmani Second Class.<sup>78</sup> Also at this time negotiations began for a fourth contract for 200,000 Peabody-Martini Rifles, and a request for a change, that the final 2,000 rifles of the second and third contracts and – we might assume, those in the proposed fourth contract – be supplied with yataghan sword-bayonets as opposed to the socket bayonets agreed in the first two contracts.<sup>79</sup> As it was the PTCO had produced some 10,411 Model 1860 sabres for the US Army between January 1862 and July 1863, but many of these were rejected at the official inspection stage for military issue, even if accepted eventually for use as meeting 'serviceable quality'.<sup>80</sup> Thus perhaps rather than face a potential similar problem by producing these in-house, the making of these yataghan bayonets was sub-contracted to the Ames Manufacturing Co. of Chicopee Falls, Massachusetts.<sup>81</sup> They followed the standard yataghan form popular at the time, having a downward curved blade after the midpoint (Fig. 1). With their all steel construction they weighed around 2 pounds (930 gr.), with an overall length of 28 inches (714 cm), and a blade length of 22.6 inches (575 mm), they were fixed to the rifle by means of a tenon on the right side of the top barrel band (Fig. 7),<sup>82</sup> and housed in a leather scabbard with steel

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Parliamentary question on the matter on 19<sup>th</sup> May 1915: cf. Hansard Vol. 71, c 2329.

<sup>74</sup> GB patent No. 2802, issued 15<sup>th</sup> November 1860; US patent 119846 A.

<sup>75</sup> Full details of the case are given in Thurston 1878, and conveniently summarised by Norton 1880, 61. On 1<sup>st</sup> May 1874, Henry, gave notice of his intention to prolong the original patent: *London Gazette*, 1<sup>st</sup> May 1874.

<sup>76</sup> Norton 1880, 63.

<sup>77</sup> Hintermeier 2001, 120.

<sup>78</sup> Achtermeier 1980, 41, where it is stated that the only other foreigner to receive this distinction was Alfred Krupp, the 'Canon King', then busy supplying the Ottoman Empire with artillery (e.g., Yorulmaz 2014, Chapter 3, *passim*), although Menne 1938, 150, in listing the 53 Prussian and other honours Krupp received states that he received the Medjidie Order, as did 'Tom' Bennett of the Winchester Repeating Rifle Company (Trevelyan 2016, 67), in his case for supplying ammunition to the Ottoman government. In 1890 and 1892 Paul Mauser was to receive a series of Ottoman awards for the supply of Mauser rifles to the Ottoman Empire, culminating in the Osmani Second Class: Seel 1981 b, 1265.

<sup>79</sup> Hull 1979, 21, with Hull 1989; Achtermeier 1980, 41.

<sup>80</sup> Hull 1979, 5-6.

<sup>81</sup> Hull 1979, 21. The history of the Ames' Company is fully explored by Hamilton 1998.

<sup>82</sup> Hull 1979, 21.

fittings when not in use (Fig. 8). The result for the infantryman wielding a Peabody-Martini rifle with a fixed yataghan bayonet was a slightly longer weapon than before, at about 6 feet (181.6 cm) long, but certainly a heavier one.

By the summer of 1876, work on the second contract of Peabody-Martini Rifles was well advanced when the Ottoman government was hit by a series of financial crises. The agreed payments to the PTCO for the first contract were stalled, promoting a refusal to deliver 40,000 already completed rifles of the second contract – and a threat even to cease arms production entirely unless cash was forthcoming.<sup>83</sup> On the 20<sup>th</sup> November 1876, by when the PTCO had made an overall total of 369,200 Peabody-Martini rifles,<sup>84</sup> the suggestion was made to lessen production costs at no financial loss to PTCO by eliminating the safety mechanism on the weapon, just as the British had done during production of the Martini-Henry Mark I.<sup>85</sup> Then, in February 1877, sufficient monies were received by the PTCO to pay for the release of the 40,000 rifles embargoed in 1876, and resume production of the remaining rifles for the second contract, with 73,000 rifles ready for delivery by the summer of 1877.<sup>86</sup>

What prompted the Ottoman government to pay its dues to the PTCO in early 1877 and so release the 40,000 embargoed rifles and re-commence production of those ordered in the second contract was quite simply the threat of war with Russia. Thus at about the time the war actually began, in April 1877, the Ottoman army had access to 334,000 Peabody-Martini Rifles, 323,000 ‘Snider’ rifles, and 39,000 Winchester Model 1866 repeating rifles and carbines,<sup>87</sup> the rifles for infantry use, the carbines by the various cavalry and other mounted units.<sup>88</sup> The Peabody-Martini, including some of those supplied with the new yataghan-form bayonet,<sup>89</sup> quickly proved its worth in action at the Siege of Plevna, playing a vital part in resisting the three attempts at capturing the place, and thus substantially impeding the Russian advance on Constantinople in what became known as the ‘Plevna Delay’.

<sup>83</sup> Cf. Achtermeier 1980, 41-42.

<sup>84</sup> Hull 1979, 22 for the total; Hintermeier 2001, 120.

<sup>85</sup> Hull 1979, 21-22; Achtermeier 1980, 42: those completed with the safety mechanism are referred to by collectors as the ‘Type A’ those without as the ‘Type B’. The same device had been eliminated on the Martini-Henry Mark I some time earlier, on the 11<sup>th</sup> November, 1873, to be precise.

<sup>86</sup> Achtermeier 1980, 42.

<sup>87</sup> Dwight 1881, 84, reporting information received from Ahmet Mithad Effendi, the most prominent journalist of the later Tanzimat period, and with access to government figures. Cf. Grzesicki and Wiedstruck 1902, 46, evidently derived from the same or a similar source. Most if not all of the ammunition for these weapons came from the Winchester Repeating Rifle Company, which supplied some 87.5 million Peabody-Martini cartridges in 1874 and 112.45 million in 1875, and 80.1 million Snider cartridges in 1876-1877: hence the award in 1877 of the Mejdide order to the company’s chief negotiator ‘Tom’ Bennett while visiting Constantinople: cf. Williamson 62-63 with 65 and 67.

<sup>88</sup> Grzesicki and Wiedstruck 1902, 44-45, where it is also observed that ‘nach officiellen türkischen Daten’ (‘according to official Turkish sources’), 310,000 only of the 334,000 Peabody-Martini’s had actually been issued for service use. The distribution and use of the Winchester Model 1866 Rifle is a mystery element in the 1877-1878 War as unlike the carbine equivalent, used by mounted units, no sources identify it specifically as being used in the campaign, although an Ottoman report for 1879 does refer, *inter alia*, to the loss of 28,527 rifles in the 1877-1878 campaign: see below.

<sup>89</sup> Cf. Herbert 1895, 23: ‘The equipment [of the Turkish infantry] consisted of a Martini-Peabody rifle and sword-bayonet’ and 352-353: ‘The bayonets were sharpened; the men had two each, one sword-shape, and one of the ordinary [i.e., socket] kind.’

A detailed account of the Siege of Plevna and the 'Plevna Delay' is not necessary here. But what cannot be eschewed is a rebuttal – no matter how brief – of a growing tendency in some modern literature – especially 'on-line' sources – to down-play the role of the Peabody-Martini in the defence of Plevna in favour of emphasising the use at close range by its infantry garrison of an allegedly 8-12,000 or so rapid firing Winchester repeater rifles they were armed with.<sup>90</sup> This is to ignore contemporary accounts such as the memoirs of Osman Pasha, along with others, stating quite categorically that the Turkish infantry at Plevna did not use the Winchester Model 1866 Rifle.<sup>91</sup> The Winchester carbine was, of course, issued to mounted units or elements thereof: but as there were no more than 1500 or so cavalry of all kinds at Plevna,<sup>92</sup> the maximum number of Winchester carbines available for its defence was probably nearer 1,000. Quite simply, aside from how contemporary records indicate clearly that the Winchester was not thought of very highly of as a service weapon,<sup>93</sup> the rapid and devastating fire that decimated the Russian infantry attacks on the place was the ease of loading and reloading of the Peabody-Martini together with its capability for long-distance and plunging fire and – in particular – an abundance of ammunition.<sup>94</sup> Indeed, so effective was the rifle in this way the Russian commander, General Skoubeloff, ordered the re-arming of one company in the Russian 63<sup>rd</sup> Regiment with captured Peabody-Martini Rifles for an attack on one particularly well-entrenched Ottoman position at the decisive Battle of Shipka in January 1876.<sup>95</sup>

<sup>90</sup> E.g., Götz 1974, 60, and Trenk 1997, followed, without question by, e.g., Rose, 2009, 184-185 (where it is also claimed that the Ottoman government was so impressed by the Winchester's performance that after Plevna, another 140,000 were ordered!), Haag 2016, 140-141, and Trevelyan 2016, 64-66, especially 66. The origin of the belief can be traced back to Boudre 1878, 350, where it is stated that each Ottoman infantry man on the front line was given a Winchester in the early stages of the Battle of Plevna; and Springer 1891, 305, similarly, where it is stated that '*... jeder türkische Soldat ... mit 15 Patronen geladene Winchester-Gewehr und beschloss die Russen welche nach furchtbaren Verlusten auf dem Sturm mussten*'.

<sup>91</sup> Osman Pasha *et al.* 1878, 210.

<sup>92</sup> Berry 2011, Appendices VII, XIII, and XIX.

<sup>93</sup> E.g., Osman Pasha *et al.* 1878, 350, on how the Winchester was considered so poor a firearm it was withdrawn from use during the course of the 1877-1878 war. Also Greene 1879, 141, '*Only the cavalry on the Turkish side was inferior in armament to the cavalry of the Russians; the latter had the short Berdan ... while the Turks had the Winchester, which, although a repeating arm, has such a small charge and short range as to make it a very inferior weapon*'; and Herbert 1895, 23, and 25, where it is noted how '*The weapons gave satisfaction in 1877, except the Winchester repeating carbine, against which frequent complaints were heard*'. Contemporary statements such as these negate completely those unsupported claims for the influence of the Winchester at Plevna and elsewhere in the 1877-1878 war along the lines of, e.g., '*The Winchester 1866 ... proved the deciding factor because of its firepower in early battles against Russia*' – Smith and Smith 1948, 395.

<sup>94</sup> Cf. Greene 1879, 17: '*The supply of ammunition was one of the few effective organizations in the Turkish army, and the infantry were prodigal in its use. They frequently opened fire at a range of 2,000 yards when occupying field works, and were accustomed to keep up an uninterrupted fusillade, often without raising their heads over the parapet to aim*'. Also Herbert 1859, 352-353, who notes that on the attempted break-out of the garrison on 9<sup>th</sup> November 1877: '*Each man carried 130 cartridges, eighty in the pouch and fifty in the haversack. Each battalion had a reserve stock of 180,000 cartridges (or 150 per man, taking the average at 100 men per battalion), in 180 boxes of 1,000 each*'.

<sup>95</sup> Greene 1879, 353-354.

The Peabody-Martini Rifle, then, was the fundamental infantry weapon in the Ottoman resistance at Plevna and elsewhere in the Ninth Russo-Turkish War.<sup>96</sup> But Plevna and other actions in that campaign evidently resulted in their heavy wastage, including – as we have seen – a sufficient number captured and used against their former owners by the Russian 63<sup>rd</sup> infantry regiment.<sup>97</sup> Indeed, according to an official Ottoman reports in June 1879, the 1877-1878 War had resulted in the loss of 156, 277 ‘Martini-Henry’ rifles (by which the Peabody-Martini is clearly meant as the Ottoman army never received any of these British-made weapons), together with 207,555 Snider rifles, 11,708 Winchester carbines and 28,527 Winchester rifles.<sup>98</sup> The war also naturally drained Ottoman finances even further. Thus the last of the 600,000 contract rifles in the third PTCO contract were not paid for and completed before 24<sup>th</sup> December 1879,<sup>99</sup> after which they were dispatched to Constantinople.

With the receipt of the last of these contracted rifles, records for 1880 indicate that the Ottoman army had access to about 350,000 Peabody-Martini rifles, along with some 400,000 ‘Snider’ rifles, 20,000 Winchester repeaters, and 20,000 Remington rifles.<sup>100</sup> But however much the Ottoman government may have wished for a renewed and continued supply of Peabody-Martini Rifles to make up the losses of the 1877-1878 War and so bring the effective total back up to the original 600,000, this was no longer possible. The life of the PTCO itself was close to its end for a variety of reasons, but most especially the various defaults of the Ottoman payments allied to a costly expansion into the sewing-machine industry.<sup>101</sup> Having declared bankruptcy on 19<sup>th</sup> April 1882, its gun-making machinery was sold that 1<sup>st</sup> August, with the PTCO closing formally for business in 1885.<sup>102</sup> It had by then manufactured some 630,737 Peabody-Martini rifles, 369,200 of Type A with the safety catch and 251, 537 of Type B without this, 600,000 of these being delivered to the Ottoman government, along with a further 5,000 examples for the Valide Sultan and 717 for private buyers, the 15,020 residue being delivered to the civilian market.<sup>103</sup>

Yet the Peabody-Martini had clearly proved so vital in infantry use that by 1881 already, the Ottoman government had embarked on a programme of making its own substitutes at Constantinople. Such is indicated by Ottoman records for the Tüfekhâne-i Âmire that year recording the manufacture of as many as 840 ‘Martini-Henry’ rifles a week as well as ‘Sniders’

<sup>96</sup> Hence the observation alleged of a Romanian veteran of Plevna when France offered to sell to Romania the surplus Peabody Military Rifles in their own stocks after the Franco-Prussian War: ‘If you must have a Peabody, get a Peabody-Martini – the same as the Turk has!’: Achtermeier 1980, 35-36.

<sup>97</sup> Greene 1879, 355, Grzesicki and Wiedstruck 1902, 122.

<sup>98</sup> Olgun 2017, 629.

<sup>99</sup> Hunt 1979, 22; Achtermeier 1980, 43.

<sup>100</sup> Seel 1981c, 1579. The Remington rifles came with Egyptian troops sent for service in the 1877-1878 War: cf. Maurice 1877, 17.

<sup>101</sup> Achtermeier 1980, 42.

<sup>102</sup> Achtermeier 1980, 43.

<sup>103</sup> Achtermeier 1980, 43; Hintermeier 1981, 120. Gencer *et al.* 208, 152 (Tablo 4), note the models delivered to the Valide Sultan arrived 26<sup>th</sup> Nisan 1291, but do not record the private purchases.



and Winchester repeating rifles.<sup>104</sup> It seems likely that part of the workforce engaged in this work was of Albanian origin, as gunsmiths from the Kosovo and Tetovo region had been busily engaged for some time in their home region in making a generic version of the 'Martini-Henry' and other Ottoman service rifles for sale to local residents and others, Albanian nationals certainly being employed at the Tüfekhâne-I Âmire as late as 1903.<sup>105</sup> Be that as it may, the manufacture of these 'clones' meant that by 1886, the Ottoman army had between 339,160 and 450,000 Peabody-Martini rifles in service use or in store, along with 396,172 'Sniders' and 9,370 Winchesters.<sup>106</sup>

This number of weapons was, however, apparently deemed insufficient or their types too obsolete for the needs of the Ottoman army as then being reorganised with the help of seconded German officers under the overall authority of Major (later General) Colmar von der Goltz: so the Ottoman government began preliminary discussions on ordering 450,000 Martini-Henry Rifles from British manufacturers.<sup>107</sup> The Mauser concern in Germany, having been made aware of this potential contract, responded by entering their *Gew. 71/84*, a bolt-actioned rifle with an 8-round tubular magazine, for a series of trials at Constantinople in December 1886 against other competitors that included Martini-Henry, Mannlicher, and Hotchkiss Rifles.<sup>108</sup> The Sultan's decision on these trials, made on either the 6<sup>th</sup> or 10<sup>th</sup> February 1887, was for the Mauser, and discussions began on purchasing 500,000 rifles and 50,000 carbines of a modified version of the *Gew. 71/84*.<sup>109</sup> Thus the birth of the 9.5 × 60 mm calibre 'Turkish Model' 1887 rifle and carbine, and a long period of collaboration between Constantinople and the Mauser concern that saw the introduction into Ottoman service of successively the 'Turkish Model' 1890 rifle, with its smaller and more powerful 7.65 × 53mm cartridge propelled by smokeless powder, and then, using the same cartridge, the 'Turkish Model' 1893 and 'Turkish Model' 1903.<sup>110</sup>

This decision to adopt the 'Turkish Model' 1887 and its successors did not, though, end for once and all Ottoman military use of the 'Aynali Martini', even if an official inventory in 1887 declared the 450,000 'Martini-Henry's' then in stock 'obsolete and useless'.<sup>111</sup> A report submitted in 1890 to his government by the then British Naval Attaché at Constantinople noted how in 1888, examples of 'Martin-Henry's' were being made at the Tüfekhâne-I Âmire in 1888 at a rate of 100 a week, although this had dropped to ten a week at the time his report

<sup>104</sup> Cf. Yorulmaz 2014, 97-98. It is not at all clear how these rifles may have been marked, although Martini-Henry/Peabody-Martini Rifle look-a-likes, with tughras on the right-hand side of the receiver and a series of unintelligible letter markings on the left-hand side, have been noted in the Ankara Antika Pazarı and elsewhere, and may well represent these.

<sup>105</sup> Olgun 2017, 630 with 637.

<sup>106</sup> Yorulmaz 2014, 110, with 215.

<sup>107</sup> Yorulmaz 2014, 33-34 and 110.

<sup>108</sup> Yorulmaz 2014, 113-114.

<sup>109</sup> Yorulmaz 2014, 116, for the 6<sup>th</sup> February, and Seel 1981a, 800, for the 10<sup>th</sup>.

<sup>110</sup> For a detailed account, see Ball 2011, 374-388, where the rifles and the various carbine versions are profusely discussed and illustrated.

<sup>111</sup> Yorulmaz 2014, 110.

was compiled,<sup>112</sup> this drop evidently in response to the arrival of their Mauser replacements. And yet even as late as 1896, despite having been declared 'obsolete and useless' some 10 years earlier, the Ottoman army registered some *c.* 500,000 'Martini' rifles among its stock of rifles, along with 150,000 'Sniders'; *c.* 50,000 Winchester repeaters; *c.* 50,000 Remington's; 220,000 'Turkish Model' 1887 rifles and 4,000 carbines; 280,000 'Turkish Model' 1890 rifles; and 201,900 'Turkish Model' 1893 rifles.<sup>113</sup>

The 'Martini-Henry' rifles inventoried at this time were evidently not all PTCO products as the total of 500,000 or so is higher than the 350,000 indicated in the inventory list for 1880,<sup>114</sup> and thus must include 'clones' produced at the Tüfekhâne-I Âmire after 1881. But be that as may the decision to keep this substantial number of Peabody-Martini or the locally-made 'Martini-Henry' rifles as a stand-by weapon was a testament to its reliability and durability if future circumstances required, having won this reputation in the 1877-1878 war: as a contemporary observer then noted, a Peabody-Martini could be used in such 'a condition that would drive the captain of a line regiment into an early grave'.<sup>115</sup> To be sure, the Peabody-Martini Rifle, along with one or other of the older Snider conversions, continued to be the standard Ottoman infantry rifle almost until the end of the 19<sup>th</sup> century, owing to a failure to distribute the stocks of Mausers to the army for training purposes, which meant that those already delivered remained in store right up until the outbreak of the Greco-Turkish War of 1897.<sup>116</sup> That is why in the event, some units were given Mausers in exchange for Peabody-Martini's and other rifles as they marched off to battle, and then had to be trained in their use under campaign conditions, but even so, it is thought that as many as nine out of every ten divisions involved in the campaign used Peabody-Martini or other long obsolete weapons, some units even being armed with muzzle-loaders of an uncertain but evidently great vintage.<sup>117</sup>

In the years that followed the 1897 War the Ottoman army continued to build up its stocks of Mauser weaponry while maintaining its reserve of Peabody-Martini and other rifles for use by, or so it seems, second line army units and the Jandarma. In fact such was the reliance on the Peabody-Martini even as an ostensibly secondary weapon for service use that in 1910 the Ottoman government adopted finally a suggestion made initially some 20 years earlier by Paul Mauser to re-chamber these to take the same 7.65 × 53 mm standard cartridge as employed in the 'Turkish Models' 1890, 1893, and 1903, and thus avoid the potential logistical nightmare during wartime of delivering the appropriate ammunition to units armed with either Mausers or Peabody-Martini rifles.<sup>118</sup> As it was, in 1892 the Österreichische Waffenfabriks-Gesellschaft at Steyr, having heard of the possibility at the time that the Ottoman Peabody-Martini Rifles might be converted to the Mauser standard cartridge, had patented a suitable conversion process already: thus in early 1910 they received a contract to produce 200,000 new chambers

<sup>112</sup> Cf. Yorulmaz 2014, 98.

<sup>113</sup> Seel 1981c, 1579.

<sup>114</sup> Seel 1981c, 1579.

<sup>115</sup> Norman 1887, 184.

<sup>116</sup> Seel 1981c, 1580.

<sup>117</sup> Yorulmaz 2014, 129-130, for a selection of contemporary accounts regarding weapons in use in the campaign; also Seel 1981c, 1580.

<sup>118</sup> Cf. Hintermeier 2001, 119 and 124.



Fig. 9. A post-1910 Peabody Martini Rifle as chambered for the standard Mauser 7.65 × 53 cartridge, with the shortened barrel, 'Turkish Model' 1903 woodwork, alongside a straightened yataghan bayonet associated with this firearm (photograph courtesy of J.P. Sheehan).



Fig. 10. The right hand side of a receiver converted to the Mauser 7.65 × 53 cartridge, showing the strengthening plate added to the rear of the breech system (photograph courtesy of J.P. Sheehan).



Fig. 11. The left hand side of the receiver as in Fig. 10, showing the strengthening plate and the added legend in Ottoman script recording conversion to the Mauser 7.65 × 53 cartridge at the "Tüfenk Fabrikası / İstanbul", and the date 1327. Note also the crescent and star inspection mark above the letter 'M' at the top left of the receiver plate as received in the PTCO factory before being despatched to Constantinople (photograph courtesy of J.P. Sheehan).



Fig. 12. The new serial marking on the breech block of a post-1910 converted Peabody-Martini Rifle (photograph courtesy of J.P. Sheehan).



Fig. 13. View from above of the muzzle of a converted Peabody-Martini rifle with stud for fitting a socket bayonet and top barrel band with a bayonet tenon (lower left) for fitting a yataghan bayonet (photograph courtesy of J.P. Sheehan).

and barrels to suit the Mauser cartridge along with 150,000 'Turkish Model' 1903 sights, these being supplied to Constantinople for fitting between October 1910 and March 1911.<sup>119</sup>

The converted rifles have a barrel length of 29.13 inches (740 mm), some 4 inches (10 cm) shorter than before (Fig. 9), giving an overall length of 3 feet 9 inches (1.14 m). The thicker and stronger barrel and chamber required for the new cartridge, which meant adding a strengthening plate also to the receiver at the rear of the breech (Fig. 10), resulted in a rifle that was now slightly heavier, at 9 pounds 4 ounces or so (4.12 kg). The left hand-side of the receiver of these conversions received an Osmanlı text beneath the original Peabody-Martini marking indicating its conversion and the year this was done, as for example (e.g., Fig. 11), 'Tüfenk Fabrikası / İstanbul / Sene – 1327',<sup>120</sup> and so 'Rifle Factory, Istanbul, year 1911/1912', and the top of the breech facing the user was stamped with a new serial number (e.g., Fig. 12). According to the known and recorded breech serials as collated by collectors, at least 2,337 conversions were completed in the year 1327 (1911/1912), 119,683 during 1328 (1912/1913), and 164,236 in 1331 (1915/1916), although for some reason the highest individual number reported, at 173,778, is on a conversion dated 1330 (1914/1915), and so the conversion was done sometime before the serial number was added.<sup>121</sup> The necessary new woodwork for the conversion – the handguard and forestock – was configured to match the 'Turkish Model' 1903 system and fitted with a 'Turkish Model' 1903 leaf sight, and as they were required to take the existing stocks of Peabody-Martini bayonets,<sup>122</sup> the muzzles were provided with both a socket lug on the muzzle itself and a bayonet tenon on the top barrel bar (Fig. 13). Given the existence of large numbers of Peabody-Martini yataghan bayonets that have been straightened and shortened (as in Figs. 8, 9 and 14) to a blade length of around 18 inches (46 cm), reducing the weight to around 1 pound 12 ounces (800 gr), it is only natural to assume these were adapted at this time to help provide better balance to the rifle when affixed. When not in use, they were housed in a shortened version of the original leather scabbard (Fig. 8), although a single steel example has been recorded (Fig. 14).

Photographic evidence would seem to confirm these conversions were in service use during the First Balkan War of 1912-1913 by both regular and irregular troops,<sup>123</sup> and so perhaps they were used in the Italo-Turkish War of 1911-1912 also. They were certainly in action at Gallipoli, for the diary of Lt Mehmed Fasih, a serving officer there, reports for 22<sup>nd</sup> October 1915 that the newly arrived Turkish 64<sup>th</sup> Regiment was equipped with 'modified Martini Rifles'.<sup>124</sup> Moreover, British Military Intelligence was evidently well aware of how the Ottoman

<sup>119</sup> Cf. Hintermeier 2001, quoting the contract book of OEWG for 1869-1913, 130, contract numbers 1 to 4.

<sup>120</sup> Sometimes the word for year and the number are reversed, and so, e.g., '1331 – sene'.

<sup>121</sup> Royal Armouries Museum, inventory no. pr 6534 Catalogue-IRN-276788: this is perhaps the one in the now-closed pattern room of the Royal Ordnance collection at Nottingham referred to by Hintermeier 2001, 125, as being the latest example known to him. Note also that all of the conversions seen and recorded by the writer and others on various collector's on-line forums have certainly been original Peabody-Martini rifles, making it almost definite that none of the 'Martini-Henry' clones made at Constantinople between 1881 and 1902 or thereabouts were ever adapted for the Mauser cartridge.

<sup>122</sup> Hintermeier 2001, 124.

<sup>123</sup> Cf. Jowett 2011, 47.

<sup>124</sup> Danişman 2001, 27. The regiment was part of the 7<sup>th</sup> Infantry Division, and had been alerted for combat readiness as early as 26 April 1915: cf. Erickson 2007, 40.

army still relied on the Peabody-Martini Rifle despite it having been officially declared obsolete in 1886. Such is made clear by their report for 1916 which notes how in addition to the various Mauser and other rifles then in service with the Ottoman army, 500,000 'Martini-Henry [and] Martini-Peabody rifles' were available, of which 370,000 were said to date to the war of 1877-1878 and so are certainly Peabody-Martini's.<sup>125</sup> The report goes on to note how the 'two types of Martini [sic]' were being converted to take the Mauser 7.65 mm cartridge and that 'about 180 Martini's [sic]' are, it is said, being converted daily in Constantinople', noting later that 'the Constantinople factory is said to turn out 100 or 150 [conversions] daily',<sup>126</sup> although the only such conversions reported in the literature are all Peabody-Martini's rather than 'Clones'. British Military Intelligence further concluded that as of July 1914, the 'Henri-Martini' (*sic*) rifle was in use solely by the Lebanese Militia and some of the 'Asian' Gendarmerie units,<sup>127</sup> although as we have seen above, converted versions were used by the Ottoman 64<sup>th</sup> Regiment at Gallipoli.

Be that as it may, the First World War was the last campaign in which the Peabody-Martini is known for certain to have been in service use. Indeed, it was most probably gradually withdrawn from combat duty from 1916/1917 onwards, when Turkey began to be supplied by Germany with a mix of their now obsolete *Gew.* 88 and surplus-to-requirements but up-to-date *Gew.* 98. Certainly, there is no evidence for the Peabody-Martini Rifle having been deployed during the Turkish War of Independence. But even if it was, it is likely to have been retired for once and for all soon after 1933, when the army of the Turkish Republic began to convert its stocks of German-made Mauser rifles for a 7.9 × 57 cartridge, this same calibre being employed in the Turkish Mauser derivatives produced by the ASFA concern at Kırıkkale after 1938. Be that as it may, those specimens of Peabody-Martini Rifles that survive in museums and in private collections are now the only clear if often neglected reminders of its important role in the declining years of the Ottoman Empire. But for a more precise example of its *raison d'être* in that tempestuous period we shall conclude this study with an example of a partly-preserved regular Peabody-Martini yataghan bayonet found during controlled archaeological excavations at the deserted Arab village of Qaluniya near Jerusalem (Fig. 15).<sup>128</sup> The place served as an Ottoman army outpost during the Great War of 1914-1918, before being 'silently dealt with' by forces of the 60<sup>th</sup> British division as part of the advance on Jerusalem, at which point, as the find shows, the garrison still relied apparently on a rifle and bayonet supplied at least 36 year earlier, further testimony to the reliability and durability of the Peabody-Martini Rifle as the Ottoman Army's first modern rifle.

<sup>125</sup> Anon. 1916, 10. The figures for the Mauser rifles were: 500,000 in 7.65 mm calibre, and so 'Turkish Models' 1890, 1893 and 1903, and 200,000 in 9.5 mm calibre, the 'Turkish Model' 1887, and the report notes that 'considerable numbers of Remington's and Winchester repeating rifles' were also in use. The source for the figures is not clear, but records indicate that a total of 900,000 Mauser firearms of all models had been sent to Constantinople between 1886 and 1908: cf. Yorulmaz 2014, 128. What is confusing here is the indication that 130,000 or so 'Martini-Henry' rifles were in Ottoman service: as noted earlier, there is no evidence the Ottoman army ever received a supply of British-made Martini-Henry rifles and so these are presumably clones of one kind or another.

<sup>126</sup> Anon. 1916, 11 with 57.

<sup>127</sup> Anon. 1916, 55, with 11 and 102.

<sup>128</sup> I am especially grateful to Assaf Peretz for information on this find, and to Shua Kisilevitz and Anna Eirikh-Rose of the Israel Antiquities Authority, for permission to publish it here. For a preliminary account of the multi-period site where it was discovered, but not the bayonet itself, see Kisilevitz *et al.* 2014.





Fig. 14. A shortened Peabody-Martini yataghan with a steel scabbard (photograph courtesy of Mick Hibberd).



Fig. 15. The remains of a standard Peabody-Martin yataghan bayonet and its surviving steel locket from its leather scabbard found in the remains of the Arab village of Qaluniya, an Ottoman outpost in World War One (photograph courtesy of Assaf Peretz, and Shua Kisilevitz and Anna Eirikh-Rose of the Israel Antiquities Authority).

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